

# RUSSIAN NET ASSESSMENT AND THE EUROPEAN SECURITY BALANCE

JACEK DURKALEC

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“The United States concept of net assessment is reasonably well known; the Soviet and Russian approach to estimating the suitability of Russia’s strategy and operational capacity in relation to those of potential adversaries is not. Jacek Durkalec’s monograph makes a distinct and very valuable contribution to filling that gap, by documenting and analyzing the Soviet and Russian practice in evaluating trends and shifts in the military balance with the West. Jacek does so by focusing on three aspects of what the Russians term ‘the correlation of forces and means’ that are of essential importance to the enduring credibility and effectiveness of NATO’s deterrence and defense posture and that have been at the forefront of Western evaluations of Russia’s performance in its war against Ukraine: (i) preparations in peacetime for winning wars; (ii) achieving dominance over an adversary in the initial period of war; and (iii) managing escalation successfully. This volume is a compelling reminder of the desirability of estimating the strategic intent and operational capacity of competitors and potential adversaries. It will also help readers have a better understanding where Russia might go next with its military power and policy of belligerence, as well as of the challenges of attempting to do so satisfactorily.”

**Diego Ruiz Palmer**

Special advisor for net assessment, NATO Headquarters, 2019-2023

“Jacek Durkalec’s new tome addresses the extremely timely question of how Russian leaders assess the balance of forces and make decisions about peace and war based on such assessments. It is a meticulously researched work that draws on a significant array of both Russian and Western sources to provide insight into how Russia—and NATO—think about the military balance in Europe today. In particular, the careful examination of Russian leaders’ statements provides useful insights into the contemporary Russian decision-making calculus. This book raises the specter that the lessons drawn from the war in Ukraine may be starkly different in Moscow and Brussels or Washington, DC. It also provides important insights to any leader engaged in preventing escalation on the European continent.”

**Kristin Ven Bruusgaard**

Director, Norwegian Intelligence School (NORIS)

"We live in an age when strategic competition and territorial aggression have overshadowed cooperative security in Europe. President Putin has dismantled Europe's treaty-based security architecture and takes every opportunity to destabilize the global security environment. Now, at great risk, he seeks geopolitical and territorial advantage through the threat and use of force. For these reasons, Jacek Durkalec's efforts to understand and explain how Russia assesses the strategic environment and calculates when potential gains outweigh the risk of aggression are invaluable. Durkalec's work provides NATO Allies a framework of thought to weigh Western net assessment methodology against Russia's correlation of forces. It is an important contribution to the West's efforts to remain competitive in the battle of ideas and prudently applied resources that will ultimately determine the winner in the ongoing struggle to shape the future security environment."

**Dave Johnson**

Former NATO Defense Policy Analyst,  
Lt. Col., U.S. Air Force (Ret.)

# Russian Net Assessment and the European Security Balance

*Jacek Durkalec*<sup>1</sup>

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<sup>1</sup> The author would like to thank Brad Roberts, Mike Albertson, David Yost, and Diego Ruiz Palmer for comments to the earlier versions of the report.

## About the Author

Jacek Durkalec completed this study while serving as a senior fellow at the Center for Global Security Research (CGSR) at Lawrence Livermore National Laboratory (LLNL). He has subsequently assumed duties in the Net Assessment Section of the International Staff at NATO headquarters. From 2017 to 2020, Durkalec was a postdoctoral research fellow at CGSR. Since 2019, he has been an affiliate of the Center for International Security and Cooperation (CISAC) at Stanford University. Prior to joining LLNL, he was a research analyst at the Polish Institute of International Affairs (PISM) from 2010 to 2017. Durkalec was also a staff member in the Missile Defence Office of the Polish Ministry of National Defence in 2009-2010 and an intern in the Strategic Planning Unit of the Executive Office of the Secretary-General of the United Nations in 2008. In 2015, he was a visiting scholar at the National Security Affairs Department of the Naval Postgraduate School in Monterey, California. He holds a doctorate in political science (2016) and master's degree in international relations (2008) from Jagiellonian University in Krakow, Poland.

# Preface

Brad Roberts

In an era marked by rivalry among the major powers and long-term competition for strategic advantage, it is essential to understand how that competition is playing out. Is one actor gaining advantages at the expense of another? Is the balance of power shifting in some substantial and consequential way? Are sources of instability growing in number or severity? Is a tipping point coming closer, where the challenger concludes that the potential benefits of military action to advance some interest outweigh the potential costs and risks?

Answers to these questions are difficult to formulate in the absence of first-hand knowledge. They require something more than the analysis generally available to policymakers, including intelligence community descriptions of improving adversary capabilities and assessments of improving U.S. and sometimes also allied capabilities. They require that these Red and Blue analyses come together in a net assessment. They require also something more than simple quantitative comparisons or of comprehensive national power indices. Rather, they require a qualitative assessment of advantages being gained or lost in terms of the specific requirements of national strategies. Think of this as strategic net assessment.

Russia's military modernization over the last decade and its military under-performance in Ukraine have invited considerable discussion among Western experts of the shifting balance of military power between Russia and NATO. But there has been little focus on how Russia might perceive that balance. Without some understanding of those perceptions, it is difficult to anticipate the future trajectory of Russian military modernization when that resumes or to calibrate the actual risks of direct military conflict.

This important new volume seeks to fill this gap. It constructs a strategic net assessment of the Russia-NATO balance from the Russian perspective, as informed by the lessons of the war against Ukraine. It was written while the author, Jacek Durkalec, was a senior fellow at CGSR and reflects analytical work he did in 2022 and early 2023. His analysis breaks



significant new ground in the net assessment methodology. It also brings important new insights into the discussion about European security and Russia's military future.

# Summary

Long-term competition between NATO and Russia will likely be an enduring feature of the European security landscape. By either failing or winning against Ukraine, Russia is likely to continue to pursue its goal of reshaping the European security architecture to its own interests. With improved knowledge of what assessments of European military balance drive Russia leadership's decisions, NATO would be better equipped to navigate through this competition and decrease the risks of direct NATO-Russia conflict. This requires not only better understanding of Russian leadership assessments of Moscow's current position vis-à-vis NATO, but also their views on how this relative position has changed over the last decade and how it is likely to evolve over the next 10 years.

In postulating answers to these questions, the paper will draw on the net assessment approach to strategic analysis. Even though “net assessment” is an American term of art, it provides a useful lens for thinking about how Russian leaders evaluate Moscow's relative military power versus the United States and its NATO allies. Some key characteristics of net assessment have been reflected in Russian leadership's approach to assessing Russia's relative military position vis-à-vis the West. Also, the historical record of “Soviet assessments” prepared by the Office of Net Assessment during the Cold War provides several useful lessons on how to better understand an adversary such as Russia. The paper draws on Russian political and military leadership statements related to evolving military balance in Europe from the beginning of Putin's presidency in 2000 to 2023. It also builds on the literature concerning Russia's approach to warfare as well as the qualitative and quantitative analyses related to NATO efforts to counter Russia's evolving military capabilities.

The major conclusions of this paper are that NATO is competing with an adversary whose leadership is confident about its ability to prevail in long-term competition; that can act aggressively based on the wrong estimates of Russia's relative strengths, weaknesses, and key asymmetries that Moscow could exploit against other countries; and whose net assessment

of evolving European military balance may be difficult to be influenced by the Alliance's actions. Consequently, while NATO allies should both engage in constant efforts aimed at better understanding Russia's leadership net assessment and develop a long-term strategy aimed at shaping it, they should also recognize the limits of such efforts.

# Introduction

Over the last decade, a widespread Western assessment of Russia was that it is a declining power. Moscow has been seen as a “mere survivor” that resorts to aggressive policies because of its flaws and weaknesses, not because of its enduring strengths.<sup>2</sup> Even though the military challenge posed by Russia was seen as real and acute, it was expected to wane in the long run and assuaged by NATO efforts to revamp its deterrence and defense posture. The challenge posed by Russia was also seen as pale in comparison to long-term systemic and military threat posed by China. If one would depict the prevailing Western perception of Russia, it would be a picture of an inverted or upside-down pyramid in which disproportional military power is based on brittle political, social, economic, and technological foundations. The perception that long-term trends are working in the Western world’s favor was further reinforced by Russia’s all-out invasion against Ukraine in February 2022. Instead of demonstrating the cumulative effects of sustained military investments and the apex of Russia’s military power, the invasion exposed Moscow’s weaknesses, requiring re-evaluation of earlier Western assessments of Russian relative military power and Moscow’s ability to sustain it in the long run.<sup>3</sup>

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2 Joel Gehrke, “State Department preparing for clash of civilizations with China,” *Washington Examiner* (April 30, 2019). <https://www.washingtonexaminer.com/policy/defense-national-security/state-department-preparing-for-clash-of-civilizations-with-china>. Accessed January 14, 2020.

3 For noteworthy examples, see *Russian Military Capability in a Ten-Year Perspective – 2019*, Fredrik Westerlund and Susanne Oxenstierna, eds., FOI, FOI-R--4758--SE, December 2019; *Western Military Capability in Northern Europe 2020 Part I: Collective Defence*, Eva Hagström Frisell and Krister Pallin, eds., FOI, February 2021, FOI-R--5012--SE (November 17, 2023); Clint Reach, Edward Geist, Abby Doll, and Joe Cheravitch, “Competing with Russia Militarily: Implications of Conventional and Nuclear Conflicts,” RAND Perspective, PE-330-A (June 2021), <https://www.rand.org/pubs/perspectives/PE330.html> (accessed November 17, 2023).

*"Russia is a regional power that is threatening some of its immediate neighbors—not out of strength but out of weakness..."<sup>4</sup>*

**President Barack Obama, 2014**

*"I have no illusions or worry about the long-term future of Russia. Russia is now a gas station masquerading as a country..."<sup>5</sup>*

**Senator John McCain, 2014**

*"Clearly the strategy will be arrayed against the threat and China presents the most significant threat going forward because China is ascending. Russia is also a threat, but it's in decline."<sup>6</sup>*

**General Lloyd Austin, U.S. Secretary of Defense, 2021**

*"...Putin's aggression against Ukraine will end up costing Russia dearly—economically and strategically... Putin will be a pariah on the international stage...When the history of this era is written, Putin's choice to make a totally unjustifiable war on Ukraine will have left Russia weaker and the rest of the world stronger."<sup>7</sup>*

**President Joe Biden, 2022**

*"These international sanctions are sapping Russian strength, its ability to replenish its military, and its ability—its ability to project power."<sup>8</sup>*

**President Joe Biden, 2022**

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4 Scott Wilson, "Obama dismisses Russia as 'regional power' acting out of weakness," *The Washington Post* (March 25, 2014). [https://www.washingtonpost.com/world/national-security/obama-dismisses-russia-as-regional-power-acting-out-of-weakness/2014/03/25/1e5a678e-b439-11e3-b899-20667de76985\\_story.html](https://www.washingtonpost.com/world/national-security/obama-dismisses-russia-as-regional-power-acting-out-of-weakness/2014/03/25/1e5a678e-b439-11e3-b899-20667de76985_story.html). Accessed November 17, 2023.

5 Burgess Everett, "McCain: Russia is a 'gas station,'" *Politico* (March 26, 2014). <https://www.politico.com/story/2014/03/john-mccain-russia-gas-station-105061>. Accessed November 17, 2023.

6 Mallory Shelbourne, "SECDEF Nominee Austin Affirms Threat From China, Will 'Update' National Defense Strategy," *USNI News* (January 19, 2021). <https://news.usni.org/2021/01/19/secdef-nominee-austin-affirms-threat-from-china-will-update-national-defense-strategy>. Accessed November 17, 2023.

7 The White House, "Remarks by President Biden on Russia's Unprovoked and Unjustified Attack on Ukraine" (February 24, 2022). <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/02/24/remarks-by-president-biden-on-russias-unprovoked-and-unjustified-attack-on-ukraine/>. Accessed November 17, 2023.

8 The White House, "Remarks by President Biden on the United Efforts of the Free World to Support the People of Ukraine" (March 26, 2022). <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/03/26/remarks-by-president-biden-on-the-united-efforts-of-the-free-world-to-support-the-people-of-ukraine/>. Accessed November 17, 2023.

The main aim of this paper is to examine whether or not—and to what extent—have Russian political and military leadership assessments of Moscow’s relative position vis-à-vis NATO resembled Western evaluations of Russia as a declining power. To do so, the research in this paper is guided by a set of questions. How has Russian leadership assessed the changing European military balance since 2008 when Russia embarked on a major military modernization effort? What key concepts have shaped their assessments of Russia’s evolving military capability vis-à-vis the West? How has Russia’s leadership perceived Moscow’s key relative strengths, weaknesses, and asymmetries vis-à-vis NATO? Whether or not—and how—has the all-out invasion against Ukraine that started in February 2022 influenced these assessments? What are Russian leadership projections for the shifts in Russia-NATO military balance over a 10-year timeframe? What conclusions could be drawn from these findings? What are the implications for NATO?

The main premise behind these questions is that long-term competition between NATO and Russia will be an enduring feature of the European security landscape. By either failing or winning against Ukraine, Russia is likely to continue to pursue its goal of rewriting the European security architecture to address the security conditions it finds unacceptable. With improved knowledge of what assessments drive Russia leadership’s decisions, NATO would be better equipped to navigate through this competition and decrease the risks of direct NATO-Russia conflict. This requires not only better understanding of Russian leadership assessments of Moscow’s current position vis-à-vis NATO, but also their views on how this relative position has changed over the last decade and how it is likely to evolve over the next 10 years.

In postulating answers to these questions, the paper will draw on the net assessment approach to strategic analysis. Even though “net assessment” is an American term of art, it provides a useful lens for thinking about how Russian leaders evaluate Moscow’s relative military power versus the United States and its NATO allies. Some key characteristics of net assessment have been reflected in Russian leadership’s approach to assessing Russia’s relative military position vis-à-vis the West. Also, the historical record of “Soviet assessments” prepared by the Office of Net Assessment during the Cold War provides several useful lessons on how to better understand an adversary such as Russia.

The paper draws on Russian political and military leadership statements related to evolving military balance in Europe from the beginning of Putin's presidency in 2000 to 2023. It also builds on the literature concerning Russia's approach to warfare as well as the qualitative and quantitative analyses related to NATO efforts to counter Russia's evolving military capabilities.

While postulating Russian leadership's assessment of the changing military balance in Europe, the paper does not aspire to provide definitive answers. Each of the themes in this paper requires further in-depth study. The paper aims to generate questions and stimulate further research by postulating initial answers and proposing a net assessment methodology by which to conduct the analysis.

The paper is structured in the following way. The first chapter provides an overview of the net assessment methodology and demonstrates how some of the key characteristics of this framework are reflected in Russian political and military leadership statements. The second chapter outlines how key military concepts developed in Russian military thought could serve as a basis for postulating Russia's net assessment methodology. The next three chapters postulate qualitative and quantitative assessments of Russian progress in implementing three of its key concepts that guide its approach to warfare: 1) Setting conditions for success in wartime during peacetime; 2) Achieving dominance in the initial period of war; and 3) Managing escalation. In each instance, the study analyzes the progress made since 2008, the implications of Russia's invasion of Ukraine in 2022, and the opportunities and challenges between now and 2030 as they may be perceived by Russian leadership. The last chapter of the paper lists some key conclusions and implications for the United States and its NATO allies.

# Net Assessment: A Window into Russia's Thinking about Strategic Competition

Can net assessment provide insights into Russian leadership's thinking about how Moscow is fairing in a military competition with the West? It may be assumed that this is not the case. With its own ways of thinking and appraising the military balance, some would believe Russia has neither the desire nor the need to emulate this U.S. style of methodology. Although the way in which Russia approaches its appraisal of relative military power is distinct, it shares many characteristics with net assessment, making it a useful lens for better understanding Russia's thinking on its relative competitive position vis-à-vis the United States and NATO allies. It is in effect a "Red net assessment of Red versus Blue." Net assessment also provides several practical insights on how to assess evolving military balance through the eyes of an adversary.

## Defining Net Assessment

"Net assessment" as a term of art is associated with the Office of Net Assessment established in the Office of the Secretary of Defense in 1973 and its intellectual father Andrew Marshall. In a narrow sense, net assessment is, using Marshall's words, "a careful comparison of [one's own] weapon systems, forces, and policies in relation to those of other countries."<sup>9</sup> It is a practical application of various methods to "appraise military balances" and examine the entire competitive interaction "of national security establishments in peacetime and in war."<sup>10</sup> In a similar vein, the U.S. Department of Defense defines net assessment as "the comparative analysis

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9 Andrew Marshall, "The Nature and Scope of Net Assessment," National Security Council (NSC) memorandum (August 16, 1972) (Secret, declassified in 2002). Cited in: Mie Augier, "Thinking about War and Peace: Andrew Marshall and the Early Development of the Intellectual Foundations for Net Assessment," *Comparative Strategy* 32, no.1 (2013), p. 12.

10 Stephen Peter Rosen, "Net Assessment as an Analytical Concept" in *On Not Confusing Ourselves: Essays on National Security Strategy in Honor of Albert and Roberta Wohlstetter*, eds. A.W. Marshall, J.J. Martin, and Henry S. Rowen (Boulder, CO: Westview Press, 1991), p. 284.



of military, technological, political, economic, and other factors governing the relative military capability of nations.”<sup>11</sup>

In a broader sense, net assessment has been characterized by others as “an intellectual and interdisciplinary framework,”<sup>12</sup> “a craft and discipline,”<sup>13</sup> “a way of thinking,”<sup>14</sup> and a “full spectrum” approach<sup>15</sup> to thinking on strategic issues. There are certain characteristics that make this framework unique.

First, net assessment focuses on strategic competition. The central question that it poses is how the United States, or any other country, is faring in strategic competition. For this reason, net assessment seeks to identify and unpack key factors that influence long-term competitive dynamics.<sup>16</sup>

Second, net assessment focuses on a country's relative position. It is aimed at providing objective analysis of where a country stands in relation to its major competitors in various types of international rivalries. This analysis is dynamic, as net assessment ties the country's policies with the anticipated reactions of opponents. In this respect, net assessment is distinct from more common forms of military analysis that focus solely on either the military forces of a particular country or its adversary without relating them to each other.<sup>17</sup>

Third, net assessment seeks to identify one's own strengths, weaknesses, and key asymmetries that could be exploited vis-à-vis an opponent. These strengths, weaknesses, and key asymmetries relative to each side are not absolute but contextually determined. They are meaningful only in relation to a particular adversary. Strengths that do not provide advantage over an

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11 U.S. Department of Defense Directive 5111.11 (April 14, 2020), p. 9. [www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/511111p.pdf](http://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/511111p.pdf). Accessed November 17, 2023.

12 Mie Augier, “Thinking about War and Peace: Andrew Marshall and the Early Development of the Intellectual Foundations for Net Assessment,” p. 2.

13 Eliot A Cohen, “Net Assessment: An American Approach,” *Memorandum* no. 29, Jaffee Center for Strategic Studies (April 1990), p. 4.

14 George E. Pickett, James G. Roche, and Barry D Watts, “Net Assessment: A Historical Review,” in *On Not Confusing Ourselves: Essays on National Security in Honor of Albert and Roberta Wohlstetter*, p. 177.

15 Gabriel Elefteri, A Question of Power: Towards Better UK Strategy Through Net Assessment, Policy Exchange (2018), p. 13. <https://policyexchange.org.uk/wp-content/uploads/2018/11/A-Question-of-Power-Net-Assessment-Gabriel-Elefteriu-Policy-Exchange-November-2018.pdf>. Accessed November 17, 2023.

16 Andrew F. Krepinevich and Barry D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy* (New York, NY: Basic Books, 2015), (Kindle Version), Chapter 5.

17 See more: Ibid., Chapter 4; Paul Bracken, “Net Assessment: A Practical Guide,” *Parameters* 36, no. 1 (2006), pp. 92-93.

adversary are not real strengths; vulnerabilities that cannot be exploited by an adversary are not vulnerabilities at all; asymmetries matter only if they make tactical or strategic change possible.<sup>18</sup>

Fourth, net assessment focuses on long-term trends. It provides dynamic analysis of the ways strategic competition has evolved in the past and the directions in which it may move in the future. For net assessment, it is insufficient to provide a single snapshot of the strategic competition at a singular point of time. Net assessment requires an examination of whether a competitive position is improving relative to the past, whether given current conditions its position is likely to improve or worsen over time, and why each of these changes is occurring. This helps to identify changes that may be imperceptible at a given moment but that can produce large, cumulative effects of a “tyranny of small decisions” over time.<sup>19</sup>

Fifth, net assessment has a comprehensive scope, exploring not only quantitative elements but also qualitative factors of military balances. Comparing the quantities of military capabilities at each side’s disposal has to be followed by capturing qualitative differences (such as command and control, firepower, mobility, and survivability, among other factors), incorporating intangible variables (such as warning time, surprise, readiness, training, tactics, military doctrine, campaign strategy, and theater objectives), and factoring in cultural, organizational, bureaucratic, and psychological influences on an adversary’s strategic choices and crisis behavior.<sup>20</sup>

Finally, net assessment is aimed at providing input to the strategic planning process. It serves as a baseline for developing solutions to long-term strategic problems. By identifying problems and potential opportunities in strategic rivalry, it offers senior leaders time and an opportunity to influence future strategic outcomes. It could also become a basis for formulating competitive strategies understood as the process of “identifying, creating, and exploiting asymmetric advantages” that can be

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18 Stephen Peter Rosen, “Net Assessment as an Analytical Concept,” p. 286.

19 Paul Bracken, “Net Assessment: A Practical Guide,” pp. 94-96; Stephen Peter Rosen, “Net Assessment as an Analytical Concept,” p. 299; Andrew F. Krepinevich and Barry D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy*, Chapter 6.

20 Andrew F. Krepinevich and Barry D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy*, Chapter 7.

used to “achieve or improve sustainable competitive advantages.”<sup>21</sup> Still, character of net assessment is diagnostic, not prescriptive. It stops short of providing recommendations or arguing for specific choices of policies and capabilities to exploit adversaries’ weaknesses or one’s own self-identified strengths. The decision on how to act based on the diagnosis of net assessment is left to decisionmakers. The rationale for this is that a focus on recommendations tends to “corrupt” the analysis. This is because of the psychological tendency to favor certain policies or defense programs that may distort the objective analysis. Being agnostic to certain solutions also helps to detach the analysts from the problems of today and focus on the problems that are central in the long run.<sup>22</sup>

While the main aim of net assessment is to answer the question of how Blue is fairing in a strategic competition, the net assessment methodology emphasizes the importance of looking at the military and political competition through the eyes of an opponent—in other words, conducting a Red net assessment of Red versus Blue. This is based on an assumption that understanding the relative position of Blue vis-à-vis Red, its relative strengths, weaknesses, and key asymmetries is possible only with a solid understanding of Red’s perceptions and approaches to the competition. Without intimate knowledge of Red, there cannot be a solid Blue net assessment capable of providing a basis for effective competitive, deterrence, and warfighting strategies.<sup>23</sup> In Marshall’s thinking, this is based on a premise that “not trying to understand the world through the opponent’s eyes is a first step to getting it wrong.”<sup>24</sup>

For this reason, understanding the adversary has become the most critical and demanding element of the practice of net assessment. This required addressing several first-order questions, including:

- How does Red assess the military competition with the United States

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21 Mie Augier and Andrew W. Marshall, “The fog of strategy: Some organizational perspectives on strategy and the strategic management challenges in the changing competitive environment,” p. 275.

22 Ibid., p. 284; Andrew F. Krepinevich and Barry D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy*, Chapter 4.

23 Stephen Peter Rosen, “The Impact of the Office of Net Assessment on the American Military in the Matter of the Revolution in Military Affairs,” *Journal of Strategic Studies* 33, no. 4 (2010), p. 474.

24 Mie Augier and Andrew W. Marshall, “The fog of strategy: Some organizational perspectives on strategy and the strategic management challenges in the changing competitive environment,” p. 282.

and its allies?

- How does Red perceive key elements of military balance?
- What are the planning assumptions, analytic methods, models, technical calculations, effectiveness metrics, norms, and dominant scenarios that are used to assess Red's main balance areas?
- Under what circumstances can assessments lead Red to undertake acts of aggression or coercion?
- How does Red see potential opportunities and weaknesses vis-à-vis Blue?
- How does Red assess the prospective costs and benefits of going to war?<sup>25</sup>

## **The Net Assessment Framework in Russia's Strategic Assessments**

Russia has neither the desire nor the need to emulate American net assessments. It has developed its own ways of thinking and its own associated methods of appraising its military power. In particular, Russian military thought cultivates the rich Soviet tradition of analyzing “correlation of forces” and military forecasting.<sup>26</sup> What is striking, however, is that Russia's indigenous methods and criteria to assess its relative military and political position share some common characteristics with the American framework for net assessment. Net assessment permeates Russia's own strategic assessments. This is also visible in Russian political and military leadership assessments of Russia's relative military and political position. These include statements of Russian President Vladimir Putin, Defense

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25 A list of questions based on: Andrew F. Krepinevich and Barry D. Watts, *The Last Warrior: Andrew Marshall and the Shaping of Modern American Defense Strategy*, Chapter 5.

26 For an extensive analysis, see: Clint Reach, Vikram Kilambi, and Mark Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means* (Santa Monica, CA: RAND Corporation, 2020). [https://www.rand.org/pubs/research\\_reports/RR4235.html](https://www.rand.org/pubs/research_reports/RR4235.html); Clint Reach et al., *Russian Military Forecasting and Analysis. The Military-Political Situation and Military Potential in Strategic Planning* (RAND Corporation, 2022). [https://www.rand.org/pubs/research\\_reports/RR4198-4.html](https://www.rand.org/pubs/research_reports/RR4198-4.html). Accessed November 17, 2023.

Minister Sergei Shoigu, Foreign Minister Sergey Lavrov, or Chief of the General Staff Valery Gerasimov.

### ***Focus on Long-Term Strategic Competition***

Thinking in terms of long-term competition is embedded in Russia's political and military leaders. While the United States and its NATO allies discovered that they are in a competitive relationship with Russia after its illegal attempt to annex Crimea in 2014, for Russia the strategic competition with the West has never ceased to exist. Even in the 1990s when Russia was relatively weak, it was determined not to stand aside while other countries "forge[d] the military-technological revolution."<sup>27</sup> At that time, Russia's political and military leaders reached a consensus over short-term measures, mid-term adjustments, and long-term objectives of the competition.<sup>28</sup> Such thinking has remained. What has changed is that since 2014, Russia's leadership became more outspoken about the competitive relations with the West and the nature of the competition. This has continued since February 2022 with Russia's invasion against Ukraine. These themes can be seen in statements made by Russian leadership over the last two decades:

#### ***Themes***

• ***The West has always aimed to make Russia weak to keep its upper hand in world affairs.***

*"...Throughout virtually its entire history, Russia has faced various restrictions and sanctions. Really its entire history. If you look at the history of the 19th and 20th centuries, you will see that the situation is always the same... Everything is the same...Nothing changes...."*<sup>29</sup>

***Vladimir Putin, 2018***

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27 Jacob W. Kipp, "The Russian Military and The Revolution in Military Affairs: A Case of the Oracle of Delphi or Cassandra?" Foreign Military Studies Office, Fort Leavenworth, paper presented at Mors Conference Annapolis, Maryland (June 6-8, 1995). <https://fas.org/nuke/guide/russia/agency/rusma.htm>. Accessed November 17, 2023.

28 Jacob W. Kipp, "Forecasting Future War: Andrei Kokoshin and the Military-Political Debate in Contemporary Russia: Andrei Kokoshin: Scholar and Bureaucrat," Foreign Military Studies Office, Fort Leavenworth, KS (January 1999). <https://fas.org/nuke/guide/russia/agency/990100-kokoshin.htm>. Accessed November 17, 2023.

29 President of Russia. "Annual news conference" (December 20, 2018). <http://en.kremlin.ru/events/president/news/59455>.

- ***While the competition was not apparent to the West, it was apparent to Russia.***

*"... Some people believe that the open confrontation of the West against Russia only began five years ago, with Ukraine and Crimea. But that is a mistake. One may recall what exactly happened in the 1990s, 2008, and 2013... in my opinion, the essence of what we are dealing with is this: in the West, models and algorithms have long been created to overthrow any inconvenient legal authority in any country...."*<sup>30</sup>

**Sergei Shoigu, 2019**

- ***If Russia does not compete, the consequences would be existential.***

*"... our most recognizable symbol... is a bear protecting his taiga... sometimes I think that maybe it would be best if our bear just sat still. Maybe he should stop chasing pigs and boars around the taiga but start picking berries and eating honey. Maybe then he will be left alone. But no, he won't be! Because someone will always try to chain him up. As soon as he's chained they will tear out his teeth and claws. In this analogy, I am referring to the power of nuclear deterrence. As soon as—God forbid—it happens and they no longer need the bear, the taiga will be taken over... And then, when all the teeth and claws are torn out, the bear will be of no use at all. Perhaps they'll stuff it and that's all."*<sup>31</sup>

**Vladimir Putin, 2014**

- ***If Russia is weak, the West, in particular the United States, will seek to fill the vacuum.***

*"...after the so-called bipolar system ceased to exist, after the Soviet Union was gone from the political map of the world, some of our partners in the West, including and primarily the United States ... began to develop the new geopolitical space that they thought was unoccupied. This, for instance, is what caused the North Atlantic block, NATO, to go east, along with many other developments... some of our partners seem to have gotten the illusion that the world order that was created after World War II, with such a global center as the Soviet Union, does not exist anymore, that a vacuum of sorts has developed that needs to be filled*

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30 "Interview with Defense Minister of the Russian Federation Sergey Shoigu for Moskovskiy Komsomolets Daily, 22 September 2019," in *Documents Talk: NATO–Russia Relations after the Cold War*, Robert Kupiecki and Marek Menkiszak, eds. (Warsaw, Poland: Polish Institute of International Affairs, 2020), p. 599. <https://www.pism.pl/upload/images/artykuly/b36eaf82-d6e0-44d1-b335-55a2be0bd15d/1621865078970.pdf>.

31 President of Russia, "Annual news conference" (December 18, 2014). <http://en.kremlin.ru/events/president/news/47250>.

*quickly... This is how we got Iraq,... they repeat... [their mistakes] in Libya. Now they got to Ukraine.*"<sup>32</sup>

**Vladimir Putin, 2015**

*"...In the late 1980s, the Soviet Union grew weaker and subsequently broke apart. That experience should serve as a good lesson for us, because it has shown us that the paralysis of power and will is the first step towards complete degradation and oblivion. We lost confidence for only one moment, but it was enough to disrupt the balance of forces in the world..."*<sup>33</sup>

**Vladimir Putin, 2022**

▪ ***The competition with the West has an ideological component.***

*"Now they are again trying to bring the liberal idea to the forefront in this battle for influence on the international arena. But all those difficulties began when it became clear that Russia does not agree to live 'in a house with a self-appointed master'..."*<sup>34</sup>

**Sergey Lavrov, 2019**

▪ ***Russia has no choice but to react to Western competitive actions.***

*"...when you are slapped you should turn the other cheek. And I am not yet ready to do so on moral grounds. If we are slapped, we must retaliate, otherwise we will always be taken advantage of... We did not provoke anyone, they provoked us."*<sup>35</sup>

**Vladimir Putin, 2012**

▪ ***Military power is essential for staying in the competition with the West.***

*"A former military officer asks his son, 'Son, I had a dagger here. Have you seen my dagger?' The boy replies, 'Dad, don't be mad. I swapped it for a watch with the kid next*

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32 President of Russia, "Plenary session of the 19th St Petersburg International Economic Forum" (June 19, 2015). <http://en.kremlin.ru/events/president/news/49733>.

33 President of Russia, "Address by the President of the Russian Federation" (February 24, 2022). <http://en.kremlin.ru/events/president/news/67843>.

34 "West disliked Russia's refusal to live 'in a house with self-appointed master' – Lavrov," TASS (February 19, 2021). <https://tass.com/politics/1258795>. Accessed November 17, 2023.

35 President of Russia, "Annual news conference" (December 20, 2012). <http://en.kremlin.ru/events/president/news/17173>.

door.' The officer says, 'Let me see the watch.' He looks at it and says, 'A good watch, good for you. You know, gangsters and robbers will come to our house tomorrow. They will kill me and your mother and will rape your elder sister, but you will come out to them and say: "Good evening, Moscow time is 12.30." We do not want anything like that to happen, do we? So we will pay due attention to developing the army and the navy without getting involved in an arms race or ruining our budget.' "<sup>36</sup>

**Vladimir Putin, 2017**

• ***The competitive race never ends.***

"... if we allow ourselves to relax even for a minute, if we make a single significant mistake in modernizing the army and the navy and training military personnel, the situation will change very quickly, in light of the speed of global events. It can change in the wink of an eye...." <sup>37</sup>

**Vladimir Putin, 2016**

"There is something I really need to underscore. It is absolutely unacceptable to stand idle. The pace of change in all areas that are critical for the Armed Forces is unusually fast today. It is not even Formula 1 fast—it is supersonic fast. You stop for one second and you start falling behind immediately." <sup>38</sup>

**Vladimir Putin, 2020**

### ***Focus on Relative Position***

Much of Russia's strategic thinking is about relating Russia to its competitors and potential adversaries. The need for knowing not only one's forces but also the changing capabilities, military thought, and operational concepts of an opponent is deeply ingrained in Russian military culture. Russian military theorists have recognized that to ensure victory it is crucial to calculate possible changes in the balance of forces during military operations as well as to determine ways to create or maintain a favorable

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36 President of Russia, "Annual news conference" (December 14, 2017). <http://en.kremlin.ru/events/president/news/56378>.

37 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2016). <http://en.kremlin.ru/events/president/news/53571>.

38 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 21, 2020). <http://en.kremlin.ru/catalog/persons/90/events/64684>.



balance of these forces.<sup>39</sup> The official Russian definition of “military strategy” highlights that military strategy should include an assessment of the strategic views of leading states and coalitions and their capabilities for preparing, unleashing, and conducting wars and military activities on a strategic scale.<sup>40</sup> The Russian Ministry of Defence’s definition of “military capability,” or military power, also emphasizes its relative character as it is understood as “the ability to influence international politics, either through false demonstrations or by direct use of armed force.”<sup>41</sup>

The recognition of a relative and dynamic military balance between Russia and NATO with not only quantitative but also qualitative and non-military elements is evident in Russia’s cultivation of the methods of “the correlation of forces and means” and military forecasting based on analysis of the military-political situation, the correlation of military potential, and Russia’s overall level of military security.<sup>42</sup> The tying of Russia’s defense investments and policies with the anticipated reactions of perceived adversaries is reflected in statements of Russian political and military leadership, including Putin:

*“...we need to be very astute in tracking any changes in the balance of forces and military-political developments in the world, especially along the Russian border, and take timely action to adjust plans so as to neutralize potential threats our country may face...”*<sup>43</sup>

**Vladimir Putin, 2016**

*“... we must closely monitor changes in the global balance of power and the military-political situation, primarily near Russia’s borders, as well as in strategically important regions that have key significance for our security. This also concerns the Middle East,*

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39 Timothy L. Thomas, *Russian Military Thought: Concepts and Elements*, MITRE (August 2019), pp. 2-7 – 2-8.

40 Andrew Monaghan, “How Moscow Understands War and Military Strategy,” CAN (November 2020), p. 12. <https://www.cna.org/reports/2020/11/IOP-2020-U-028629-Final.pdf>. Accessed November 17, 2023.

41 *Russian Military Capability in a Ten-Year Perspective – 2019*, eds. Fredrik Westerlund and Susanne Oxenstierna, FOI, FOI-R--4758—SE (December 2019), p. 18.

42 Clint Reach, Vikram Kilambi, and Mark Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means*; Clint Reach et al., *Russia’s Evolution Toward a Unified Strategic Operation*....

43 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016). <http://en.kremlin.ru/events/president/news/53571>.

*the Korean Peninsula, where a high potential for conflicts persists, as well as Europe, where NATO and the United States continue to rapidly build up their infrastructure...* <sup>44</sup>

**Vladimir Putin, 2017**

*"...technology, including in the defense sector, is changing rapidly. One day there is one leader, and tomorrow another, but a military presence in territories bordering on Russia, if we permit it to go ahead, will stay for decades to come or maybe forever, creating an ever mounting and totally unacceptable threat for Russia... Even now, with NATO's eastward expansion the situation for Russia has been becoming worse and more dangerous by the year. Moreover, these past days NATO leadership has been blunt in its statements that they need to accelerate and step up efforts to bring the alliance's infrastructure closer to Russia's borders. In other words, they have been toughening their position. We cannot stay idle and passively observe these developments. This would be an absolutely irresponsible thing to do for us."* <sup>45</sup>

**Vladimir Putin, 2022**

### ***Focus on Identifying One's Own Relative Strengths, Weaknesses, and Key Asymmetries***

Russian political and military leaders think in terms of strengths and weaknesses, but predominantly key asymmetries vis-a-vis the West. The focus on asymmetric methods and means of action follow the recognition of the comparative weakness of Russia's economic and military potential vis-à-vis the West after the collapse of the Soviet Union. As explained in 1995 by influential Russian military theorist General Makhmut Gareev, to successfully compete Russia needs to avoid the mistakes of the Soviet Union and increase the combat effectiveness of its military forces without using an overwhelming amount of economic resources. To do so, Russia's focus should be on achieving "a truly decisive concentration of scientific-technical and production efforts for the development of those types of weapons which will have decisive significance and neutralize or compromise

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44 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2017). <http://en.kremlin.ru/events/president/news/56472>.

45 President of Russia, "Address by the President of the Russian Federation" (February 24, 2022). <http://en.kremlin.ru/events/president/news/67843>.

long-range programs of other countries designed to achieve military superiority.”<sup>46</sup>

*“... we still spend 25[%] less on defense than the United States. But we certainly do need to reflect, of course, on how to ensure our external security. Our responses will be asymmetrical, but they will be highly effective.”*<sup>47</sup>

**Vladimir Putin, 2007**

*“... can we reliably and unconditionally ensure that our country’s defense capability is maintained[?] We can, we must, and we will do it. One may ask, how will we do it? Alexander Suvorov taught us that the thing that matters at war is skill rather than numbers... We will not rely only on the military muscle and we will not rush into a senseless arms race that is crippling for our economy—we will certainly not do that... The answer is very simple: on brains, intellect, discipline, and organization when handling relevant tasks. We have a remarkable foundation that we have inherited from the past decades but we also have new, absolutely cutting-edge projects developed by our young researchers, designers, and engineers... It is the development of new, promising, high precision, and high-technology types of weapons that are unique in terms of their effectiveness. To achieve these goals we need, as I already said, to demonstrate creative approaches, discipline, and responsibility...”*<sup>48</sup>

**Vladimir Putin, 2017**

*“Not only can it, Russia is already fully effective in opposing America. It is doing so because of our science, our industry, our new inventions. Besides, we are not trying to compete with them on all fronts. If you break down the American budget into the first factors, you will understand that huge expenditure goes to different bases, scattered around the world... But does Russia need 5-10 of its own aircraft carrier groups if we are not going to attack anyone? We need resources that can potentially be used against such enemy carrier groups in case of aggression against our country. And that is incomparably cheaper and more effective!... The most important thing is that our military expenditure is fully effective. It is*

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46 Jacob W. Kipp, “The Russian Military and The Revolution in Military Affairs: A Case of the Oracle of Delphi or Cassandra?”

47 President of Russia, “Transcript of Press Conference with the Russian and Foreign Media” (February 1, 2007). <http://en.kremlin.ru/events/president/transcripts/24026>.

48 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017).

*spent according to requirements and is under the strict supervision of our Commander-in-Chief.*"<sup>49</sup>

**Sergei Shoigu, 2019**

### ***Focus on Long-Term Trends***

Russian leadership thinks in terms of long-term trends affecting economic, social, political, scientific, technical, and military developments. This is reflected by an important place in Russian military thought of forecasting the nature of future war.

In predicting the nature of future war, Russian military planners start with analysis of contemporary trends such as scientific discoveries that may influence the conduct of future warfare. They also consider evolving situational context, including geopolitical conditions. Predictions about the most likely scenarios of future war lead to considerations about the most optimal forms (organizations, type of operations) and methods (new weaponry, military art) of waging future conflicts. This, in turn, leads to determinations on the types of force correlations required to win in such conflicts.<sup>50</sup>

In Russian military tradition, the successful prognosis is one that is based on analysis of the present and leverages lessons from the past to find the keys to victory over any opponent. Military forecasting is necessary for the development of strategy and military art and for pushing conservative and bureaucratic military institutions to address the fact that the next war will be different from the last. Foresight in military affairs is also instrumental in strategies to prevent war and prevail in long-term competition. To win in this competition it is necessary to impose one's own vision upon the future.<sup>51</sup>

Predicting the nature of future conflicts and forecasting new military requirements arising from changing balance of power and shifting

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49 "Interview with Defense Minister of the Russian Federation Sergey Shoygu for Moskovskiy Komsomolets Daily, 22 September 2019," pp. 599-600.

50 Timothy L. Thomas, "Russian Forecasts of Future War," *Military Review* (May-June 2019), p. 84.

51 See: Jacob W. Kipp, "The Methodology of Foresight and Forecasting in Soviet Military Affairs," *Soviet Army Studies Office*, Fort Leavenworth, KS (May 1988); Jacob W. Kipp, *Forecasting Future War: Andrei Kokoshin and the Military-Political Debate in Contemporary Russia*.

geopolitical landscape are tasked to the General Staff.<sup>52</sup> The importance of understanding future trends is also reflected in Russian strategy documents that look to the 2030s and beyond, including the Strategic Forecast to 2035 adopted in 2019.<sup>53</sup> There is a recognition in Russia that forecasts should be updated on a regular basis to account for rapid pace of scientific, technological, geopolitical, and other developments. As reported by Maj. Gen. (Res.) V. V. Kruglov, an author of several articles on forecasting, Putin personally requested work on a new, qualitatively different, “smart” system of military analysis and planning with “better predictions of developments in the military, political, and strategic situations.”<sup>54</sup> According to Kruglov, new forecasts and assessments will be made every three to six months.<sup>55</sup>

*“...we can see that the world is experiencing a real economic, technological, and educational revolution. Obviously, these profound transformations will also inevitably influence the military sphere and the state of leading countries’ armies. Apart from merely heeding these trends, we must make them the foundation of our military planning and development... Russia should remain among the leading states, and in some areas, it must become an absolute leader in the creation of a new-generation army that would fit into a new technological era...”*<sup>56</sup>

**Vladimir Putin, 2017**

*“...principle of preventing war is in the forecasting of the development of military-political and strategic conditions in the interests of the timely identification of military dangers and threats and the response to them... This foundation of forecasts serves as the initial data for working out forms and means of using armed forces.”*<sup>57</sup>

**Valery Gerasimov, 2019**

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52 Carl Scott, “‘From Concept to Capability’: the Russian Approach to Capability Development,” Changing Character of War Centre, Pembroke College, University of Oxford, with Axel and Margaret Ax:son Johnson Foundation (September 2018). <http://www.ccw.ox.ac.uk/blog/2018/9/19/from-concept-to-capability-the-russian-approach-to-capability-development-by-carl-scott>. Accessed November 17, 2023.

53 See more: Andrew Monaghan, “How Moscow Understands War and Military Strategy,” p. 4; Clint Reach, pp. 7-9.

54 Timothy L. Thomas, “Russian Forecasts of Future War,” p. 86.

55 Ibid.

56 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017).

57 Andrew Monaghan, “How Moscow Understands War and Military Strategy,” p. 15.

*"...it is necessary to develop military science and introduce new ways of using troops. At the same time, it is necessary to proceed from forecasts of the nature of armed conflicts and local wars, as well as the prospects for the appearance of weapons in foreign armies based on new physical principles."*<sup>58</sup>

**Sergei Shoigu, 2021**

*"There is a second, no less important point: they [the West] are concentrating on specific developments in certain areas whereas we lay emphasis on the need to ensure security on a broad scale for decades to come. They are using a microscope whereas we are looking forward through binoculars in an effort to prevent unfavorable developments in the future."*<sup>59</sup>

**Sergey Ryabkov, 2021**

### **Comprehensive Scope**

Russian assessments of its relative position are comprehensive. Russian analyses focus not only on quantitative numbers and types of capabilities but also on qualitative factors and non-military elements. Both quantitative and qualitative variables are considered in Russian military forecasting, making the forecasting more important but also more difficult and complex. Quantitative and qualitative elements are also considered in Russian military analysts' work on correlation of forces, even though such assessments have strong quantitative elements and rely heavily on modeling.<sup>60</sup>

*"Forms of armed conflicts are becoming increasingly sophisticated. The efficacy of an armed conflict and victory always lie with those who have the strongest spirit and better weapons than their opponents, and who use them better than a potential enemy... We need to take a modern approach in our thinking; we always need to work with an eye toward the future."*<sup>61</sup>

**Vladimir Putin, 2013**

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58 "Russian Defence Minister General of the Army Sergei Shoigu holds teleconference with leadership of Armed Forces" (January 12, 2021). [http://eng.mil.ru/en/news\\_page/country/more.htm?id=12334317@egNews](http://eng.mil.ru/en/news_page/country/more.htm?id=12334317@egNews).

59 "Deputy Foreign Minister Sergey Ryabkov's interview with Izvestia" (December 13, 2021). [https://www.mid.ru/en/foreign\\_policy/news/-/asset\\_publisher/ckNonkJE02Bw/content/id/4992391](https://www.mid.ru/en/foreign_policy/news/-/asset_publisher/ckNonkJE02Bw/content/id/4992391).

60 Timothy L. Thomas, "Russian Forecasts of Future War," p. 86.

61 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 10, 2013). <http://en.kremlin.ru/events/president/news/19816>.

## *Input to the Strategic Planning Process*

Russia's methods of assessing its relative military position influence its long-term planning processes. General Staff forecasts of the most likely scenarios of how the future conflict might unfold, assessments of the correlation of forces needed to prevail in such scenarios, and "forms of methods" are all key to war planning, designed to avoid the "paths that lead nowhere" and accept those that "help avoid errors."<sup>62</sup> Such assessments also inform efforts aimed at identifying and exploiting novel technologies that could enhance Russia's military capability to prevail in future conflicts. For example, the Advanced Research Foundation (ARF), established in 2012, draws on government institutions, the military-industrial complex, associated design bureaus, and academic and intelligence resources. It directs "the System of Forward Looking Military Research and Development."<sup>63</sup>

*"The [Advanced Research] Foundation's projects are called upon to play a decisive role in the development of key elements of weapons, military and specialist equipment of the new generation. The should become the basis of the domestic armaments system at the turn of 2025-2030, for the Army and Navy, as well as for a number of other branches of production and for other power structures."*<sup>64</sup>

*Vladimir Putin [undated]*

## **Understanding Russia's Use of Net Assessment**

Russian military literature and official statements over the last decade imply that Russia has developed a well-structured system for conducting strategic assessments that is fully embedded into its bureaucratic process and informs thinking at the top levels of its government. This suggests that the West does not have a monopoly on thinking in net assessment terms. One may even conclude that Russia possesses an advantage over the United States and its allies in leveraging a net assessment framework of thinking to shape its

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62 Timothy L. Thomas, "Russian Forecasts of Future War," p. 84.

63 Carl Scott, "'From Concept to Capability': the Russian Approach to Capability Development," Changing Character of War Centre, Pembroke College, University of Oxford with Axel and Margaret Ax:son Johnson Foundation (September 2018). <http://www.ccw.ox.ac.uk/blog/2018/9/19/from-concept-to-capability-the-russian-approach-to-capability-development-by-carl-scott>. Accessed November 17, 2023.

64 Ibid.

long-term competitive position. In the United States, the Net Assessment Office within the Department of Defense is relatively small and isolated from the flow of bureaucratic processes. Other NATO allies are only starting to make the progress in establishing their net assessment capacities, but these efforts are still only nascent.<sup>65</sup> For example, in 2022 the United Kingdom established within its Ministry of Defence the Secretary of State's Office for Net Assessment and Challenge (SONAC).<sup>66</sup> The Net Assessment cell was also established within NATO following the recommendation of the 2030 NATO Reflection Group.<sup>67</sup>

Still, as the next chapters of this paper will show, Russia's aggression against Ukraine in February 2022 demonstrates inherent deficiencies in Russian net assessments, in particular in assessing the quantitative and qualitative aspects of the military balance vis-à-vis Ukraine. From this perspective, the American practice of net assessment could offer useful insights into how understanding the military balance in the way that adversary sees it could help to identify these deficiencies.

Valuable insights can be gained from the "Soviet assessments" that were prepared by the Office of Net Assessment during the Cold War and which provided critical foundations for the U.S. and NATO capability to conduct a purposeful strategic competition and contributed to the Alliance's strategic renaissance in mid-1970s.<sup>68</sup> Such assessments were, however, discontinued with the end of the Cold War. This was a part of a larger process of loss of

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65 Jacek Durkalec and Brian Radzinsky, "Net Assessment and 21st Century Strategic Competition Workshop Summary," Center for Global Security Research (2021), pp. 5-6. [https://cgshr.llnl.gov/content/assets/docs/NetA\\_Workshop\\_Summary.pdf](https://cgshr.llnl.gov/content/assets/docs/NetA_Workshop_Summary.pdf). Accessed November 17, 2023.

66 UK Ministry of Defence, "Announcement of new Director appointed to the Secretary of State's Office for Net Assessment and Challenge (SONAC)" (May 6, 2022). <https://www.gov.uk/government/news/announcement-of-new-director-appointed-to-the-secretary-of-states-office-for-net-assessment-and-challenge-sonac>. Accessed November 17, 2023.

67 NATO, *NATO 2030: United for a New Era. Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General* (November 25, 2020), p. 24. [https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/2020/12/pdf/201201-Reflection-Group-Final-Report-Uni.pdf). Accessed November 17, 2023.

68 Diego Ruiz Palmer, *A Strategic Odyssey: Constancy of Purpose and Strategy-Making in NATO, 1949-2019*, NDC Research Paper no. 3, NATO Defense College (June 2019), p. 66. <https://www.ndc.nato.int/news/news.php?icode=1330>. Accessed November 17, 2023.



analytical depth and sophistication about Russia in the West that was being rebuilt only after Russia's initial aggression against Ukraine in 2014.<sup>69</sup>

One of the key Cold War insights is that understanding how Red thinks requires overcoming several biases that may lead to a failure of recognition that it can act in unexpected ways. These include mirror imaging, assuming that Red behaves in the same way as Blue and relying on cultural biases caricaturizing and simplifying Red's behavior. Russia's approaches must be taken at face value and understood on the same terms that Russian leaders understand them. Only by looking at modern warfare through the lenses of Russian priorities, concerns, and ways of military thought can one identify some key asymmetries between Russia and NATO. For example, the Soviet assessments demonstrated that Red's net assessment sharply differed from the assessment of the same competition from Blue's perspective. Soviet military officers assumed different objectives, emphasized different scenarios, used different measures of effectiveness, highlighted different key variables, and even provided different data about the physical effects of atmospheric nuclear detonations. They had also starkly opposing views about Soviet strengths and weaknesses than those perceived by the United States and its allies.<sup>70</sup>

Second, net assessments by Blue are increasingly valuable the more they resemble the actual Red practice assessing military balance. The most desirable way for conducting Soviet-related assessments was to do them in precisely the same way as they would be conducted by the Soviets or at least provide approximation of it.<sup>71</sup> For this purpose, net assessments were based on extensive studies of Soviet military writings and analyses of how the Soviets conducted operations research and other forms of relevant analysis, modeling, and simulations. They also were based on extensive intelligence data, including access to the Soviet quantitative metrics used in operational planning to

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69 Thomas Erhard, "Treating the Pathologies of Victory: Hardening the Nation for Strategic Competition," in *2020 Index of U.S. Military Strength*, Dakota L. Wood, ed., Heritage Foundation (2020), p. 24. [https://www.heritage.org/sites/default/files/2019-11/2020\\_IndexOfUSMilitaryStrength\\_WEB.pdf](https://www.heritage.org/sites/default/files/2019-11/2020_IndexOfUSMilitaryStrength_WEB.pdf). Accessed November 17, 2023.

70 John A. Battilega, "Assessing Soviet Military Capabilities" in *Net Assessment and Military Strategy: Retrospective and Prospective Essays*, Thomas G. Mahnken, ed. (Amherst, NY: Cambria Press, 2020), p. 120; Abram N. Shulsky, "Understanding the Nature of 'the Other,'" in *Net Assessment and Military Strategy: Retrospective and Prospective Essays*, p. 180; Andrew F. Krepinevich and Barry D. Watts, Chapters 6 - 7.

71 Andrew W. Marshall, "A Program to Improve Analytic Methods related to Strategic Forces," *Policy Sciences* 15 (1982), p. 48.

calculate military balance between opposing forces.<sup>72</sup> What complicated the task was that the Soviet political and military leadership used other, more simplified frameworks for assessing the Soviet Union's relative position at the strategic level. These strategic level assessments were only partially influenced by the tactical and operational assessments conducted by the Soviet military.<sup>73</sup> Even though full replication of how the Soviets did their own assessments was never achieved during the Cold War, consistent efforts in this direction helped to broaden the understanding of the Soviet calculus. Similarly today, the more effort invested in trying to understand the assessments of Russian political and military leaders, the greater the chance that such understanding will improve over time even though the initial efforts would seem unsatisfactory.

Third, another lesson from the Cold War net assessments is that getting into the mindset of an adversary requires going beyond thinking about its strengths. It also requires trying to understand how the adversary perceives its own weaknesses. Insufficient attention to Red's perceptions of its weaknesses could lead to losing potential opportunities that could be exploited. Analysis of weaknesses as Red perceives them could provide a counterweight to an analysis focusing solely on opponents' strengths that overlook constraints created by political, organizational, cultural, and psychological influences that affect behavior, military thought, strategy, doctrines, operational concepts, and bureaucratic practices.<sup>74</sup>

Finally, gaining intimate understanding on how an adversary thinks is a never-ending process. It requires collecting reliable and consistent data about the past as well as the present and maintaining sustained intellectual effort and persistent observation over the long term. Effective net assessment requires focusing on a problem for years to accumulate and fuse knowledge—then build on it to identify asymmetries and interpret their implications. As explained by those involved in Soviet net assessments, work was protracted; it resembled solving a jigsaw puzzle with deliberate attention to fuse piecemeal insights, move on, and return with additional insights to fill the gaps.<sup>75</sup>

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72 Andrew F. Krepinevich and Barry D. Watts, Chapters 5 - 6.

73 Stephen M. Meyer, *Soviet Style Theater Assessments* (Cambridge, Mass.: MIT Center for International Studies, 1989), pp. 2-5. <https://apps.dtic.mil/sti/citations/ADA269791>. Accessed November 17, 2023.

74 Abram N. Shulsky, pp. 187-188.

75 John A. Battilega, pp. 130-131.

# Concepts Guiding Russia's Net Assessments

Under what conditions would Russian political and military leadership be confident that the military balance is shifting to Russia's favor and that Russia is confident in its ability to fight and win a war with NATO? What are the main considerations that affect Russian decisionmakers' net assessments of the relative power vis-à-vis NATO?

In answering these questions, useful insights can be provided by examining Russian leadership's assessments of how the country implemented key concepts guiding Russia's approach to warfare. According to these concepts, the most optimal scenario for Moscow to wage a war with any adversary—including NATO is a scenario in which Russia's political and military leaders are confident that:

- The conditions for success in wartime were set during peacetime.
- The decisive advantage against the adversary could be gained in the initial stage of war.
- Russia would be able to manage escalation.

These three concepts are deeply ingrained in Russia's military thinking, and their pervasive importance is nurtured by the deeply rooted belief that "how the rest of the world defends itself, builds its doctrine and strategies, simply won't work in Russia..."<sup>76</sup> Reflecting Russian military strategic culture, these concepts could provide President Putin and other decisionmakers with a strategic framework for calculating critical military-related balances in peacetime, crisis, and war.<sup>77</sup>

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76 Stephen R. Covington, *The Culture of Strategic Thought Behind Russia's Modern Approaches to Warfare* (Boston, MA: Belfer Center for Science and International Affairs, Harvard Kennedy School, October 2016), p. 1. <https://www.belfercenter.org/sites/default/files/files/publication/Culture%20of%20Strategic%20Thought%203.pdf>. Accessed November 17, 2023.

77 Ibid., p. 2.

Focusing on these concepts also reflects lessons from analyzing the Soviet assessments during the Cold War. Qualitative factors occupied a central position in Soviet net assessments and seemed to play even more important roles than merely quantitative comparisons of forces, manpower, or system capabilities. While rigorous quantitative calculations were done routinely at tactical and operational levels, in the Soviet Union there appeared to be no strategic level correlation of forces and means (COFM) calculus for systematically assessing the theater balance of forces. The reason was that such sophisticated calculations were difficult to understand and thus were of little value to top military and, more importantly, political leadership.<sup>78</sup> This seems to be also the case in contemporary Russia. The Russian military continues to apply the same role for COFM at the tactical and operational level. Russian decisionmakers, including Putin, rarely use this term as the point of reference, assessing and evolving Russia's position based on assessments of "balance of military forces" or the "strategic balance of power."<sup>79</sup>

### **Setting the Conditions in Peacetime for Success in Wartime**

In Russian military thought, success in war depends on preparing conditions for victory in peacetime. Only the gradual wearing down and weakening of an adversary in political, economic, and military terms before the outset of a military confrontation can enable relatively quick and decisive victory. Otherwise, confronting an opponent that is politically cohesive, economically resilient, and militarily ready can involve an overtly costly war of attrition that has to be avoided.<sup>80</sup> In the most favorable circumstances, strategic aims could be achieved without war.<sup>81</sup> From this perspective, Russia confronts its potential adversaries in peacetime not

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78 Stephen M. Meyer, *Soviet Style Theater Assessments*, pp. 2-5.

79 Clint Reach, Vikram Kilambi, and Mark Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means* (Santa Monica, CA: RAND, 2020), p. 2. [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR4200/RR4235/RAND\\_RR4235.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR4200/RR4235/RAND_RR4235.pdf). Accessed November 17, 2023.

80 Andrew Monaghan, *How Moscow Understands War and Military Strategy* (Arlington, VA: CNA, 2020), p. 11. [https://www.cna.org/CNA\\_files/PDF/IOP-2020-U-028629-Final.pdf](https://www.cna.org/CNA_files/PDF/IOP-2020-U-028629-Final.pdf).

81 Dave Johnson, "NATO Collective Defense in the Era of Unpeace," in *NATO in the Era of Unpeace: Defending Against Known Unknowns*, Dominik P. Jankowski and Tomasz Stepniewski, eds. (Lublin, Poland: Institute of Central Europe, 2021), p. 49. [https://ies.lublin.pl/wp-content/uploads/2021/03/nato-in-the-era-of-unpeace\\_calosc-1.pdf](https://ies.lublin.pl/wp-content/uploads/2021/03/nato-in-the-era-of-unpeace_calosc-1.pdf). Accessed November 17, 2023.

because it sees it as an alternative to military actions. It is because it is the most optimal thing to do to facilitate success in wartime in case it becomes necessary. For Russia, creating the conditions of success in war by taking activities in peacetime blurs the distinction between peacetime and wartime and creates a continuum of competition.

Setting conditions for success in war against NATO during peacetime entails the integrated use by Russia of non-military and military tools. As explained by General Valery Gerasimov, chief of the Russian General Staff, modern conflicts—defined as “conflicts below the threshold of war”—are “conducted by the integrated employment of political, economic, informational, and other non-military means, all implemented with reliance on military force.”<sup>82</sup>

Russia employs its multi-domain toolkit in peacetime to prepare the conditions for wartime as a part of its strategic destabilization campaign of the Euro-Atlantic space.<sup>83</sup> As a part of this campaign, a vast array of non-military tools is used to undermine the political, economic, and social systems of individual NATO allies as well as overall cohesion among the Alliance to collectively confront Russia. This involves efforts aimed at discrediting those who favor policies that contradict Russia’s interests, dividing the allies, disarming them, preventing them from mobilizing, downplaying the threat the Russia might pose to them, and demoralizing them.<sup>84</sup> Such techniques originate from Soviet “active measures” undertaken during the Cold War when one of the key Soviet goals was the “moral and political” isolation of the United States from its allies.<sup>85</sup> The repertoire of non-military actions taken by Russia to destabilize NATO is broad and can involve tactics such as stoking unrest and exploiting economic leverage such as energy dependence, political meddling, taking advantage of “agents of influence,” corruption, targeted assassinations, and information confrontation.

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82 Ibid., p. 32.

83 A term coined by Dave Johnson, see: Dave Johnson, “NATO Collective Defense in the Era of Unpeace.”

84 See: *Soviet Active Measures in the “Post-Cold War” Era 1988-1991*, A Report Prepared at the Request of the United States House of Representatives Committee on Appropriations by the United States Information Agency (June 1992). [http://intellit.muskingum.edu/russia\\_folder/pcw\\_era/index.htm#Contents](http://intellit.muskingum.edu/russia_folder/pcw_era/index.htm#Contents). Accessed November 14, 2023.

85 “The Goals and Main Tactics of Russia’s Disinformation,” GEC Counter-Disinformation Dispatches no. 11 (August 23, 2021). <https://e.america.gov/ViewEmail/i/CD46E76EEAD07F9E2540EF23F30FEDED>. Accessed November 14, 2023.

Of these non-military measures, the information confrontation toolkit gained particular significance over the last two decades. This is because in the view of Russian military theorists, the importance and role of information warfare tools increased significantly in the modern conditions with “the rapid development of information technology, the emergence of the internet, and the spread of many social networks.”<sup>86</sup> Using them to influence “the moral and psychological state of the Armed Forces personnel and the population of the adversary” could “significantly affect the course and outcome of combat operations.”<sup>87</sup> Similarly, according to Gerasimov, information dominance remains an “indispensable pre-requisite of combat actions.”<sup>88</sup>

Russia’s military thought divides information confrontation into information-psychological and information-technical operations. Information-psychological operations aim to achieve military, social, economic, and political goals by using specially-prepared information against the adversary’s armed forces, military, or political leadership, or population. Such operations could also encompass techniques of reflexive control to incite the adversary to act in a way that is advantageous to Russia.<sup>89</sup> Such operations could be designed to affect the political processes such as outcomes of the elections but also “the unconscious, irrational states of people, their emotions, feelings, instincts, prejudices, preconceptions, and the mythological constructs of the population...”<sup>90</sup> Information-technical operations contribute to creating internal destabilization through an employment of “cybernetic and radio-electronic resources” to disorganize the political, economic, and financial systems of opponents or other operations designed to damage information systems processes and resources as well as critical infrastructure.<sup>91</sup>

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86 Col. A.V. Khomutov, “Countering the Multi-Domain Operations of the Adversary,” *Military Thought* 30, no. 3 (2021), p. 57.

87 *Ibid.*, p. 56.

88 Timothy L. Thomas, “Russian Military Thought: Concepts and Elements,” MITRE (August 2019), pp. 9-6. <https://www.mitre.org/sites/default/files/publications/pr-19-1004-russian-military-thought-concepts-elements.pdf>. Accessed November 14, 2023.

89 *Ibid.*, pp. 7-1 – 7-9, and 4-1 – 4-11.

90 *Ibid.*, pp. 8-21.

91 *Ibid.*, pp. 9-7. See also: pp. 8-16 – 8-18.

While non-military tools are the main vehicle for waging the destabilization campaign, military tools also play a role. Conventional dominance over its neighbors, missile coverage of the entire continent, threats of use of force, large-scale exercises, or nuclear saber-rattling all provide a shield to non-military activities. They also add coercive and intimidating elements to Russian activities as Russia uses them to create apprehension among NATO allies about the military risks of pursuing policies that are against Russia's long-term interests and the futility and costs of war with Russia.<sup>92</sup> For Russian military theorists, the effectiveness of "strategic deterrence" depends on the success in "comprehensive systemic influence" on its target, including through "influencing the cognitive space (conceptual sphere)" of an adversary through intimidation, persuasion, constraint, warning, and coercion.<sup>93</sup> Efforts are aimed at directly or indirectly "intimidating and warning" the potential aggressor's military-political leadership; its administrative-political, military, and scientific-educational elites; and mass consciousness of targeted societies.<sup>94</sup> Such efforts can be also used by Russia as a way of misleading NATO allies, individually or collectively, about Russia's ability to wage war.<sup>95</sup>

## **Dominance in the Initial Phase of War**

In Russia's approach to warfare, the initial period of warfare (IPW) has decisive impact on determining its outcome. Winning, including through prompt subjugation of an enemy, requires putting an adversary at the verge of defeat at the beginning of the hostilities.<sup>96</sup> This is closely related to the goal of creating peacetime conditions for success in wartime. It also necessitates, from the military planning perspective, available pre-planned

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92 See: Brad Roberts. *On Theories of Victory, Red and Blue*, Livermore Papers on Global Security No.7 (Livermore, CA: Center for Global Security Research, Lawrence Livermore National Laboratory, 2020), p. 52. <https://cgshr.llnl.gov/content/assets/docs/CGSR-LivermorePaper7.pdf>. Accessed November 17, 2023.

93 V.A. Kalganov, G.B. Ryzhov, and I.V. Solovyov, "Strategic Deterrence as a Factor Ensuring Russia's National Security," *Military Thought* 31, no. 4 (2022), p. 34.

94 *Ibid.*, pp. 34, 38.

95 Timothy L. Thomas, "Russian Military Thought: Concepts and Elements," pp. 8-9.

96 Michael Kofman, "It's Time to Talk about A2/AD: Rethinking the Russian Military Challenge," *War on the Rocks* (September 5, 2019).

scenarios and models of combat operations that could be effectively executed if a conflict is imminent.<sup>97</sup>

While assessing its readiness to wage local, regional, or large-scale conflicts, Russian military leaders continue to see the need for creating favorable military balance.<sup>98</sup> This follows the logic that Russia must be able to correctly determine the scale of future war and that everything the Russian armed forces needs to win such a war must be provided before conflict appears imminent.

The most optimal scenario for Russia in a conflict with any European NATO ally would be to keep it local, similar to wars with Georgia and Ukraine. Nonetheless, Russia must assume that a conflict would escalate on a regional level and might encompass a NATO-wide front from Norway in the north to Turkey in the south.<sup>99</sup> From this perspective, being prepared for war with NATO necessitates setting the favorable balance of forces for success in a regional war. These requirements might, however, be relaxed if Russia believed that local success could be achieved relatively quickly—before NATO mobilizes its entire military potential, that is—and if Russia could alter negative shifts in the military balance through effective escalation management.

Establishing a favorable correlation of forces and means does not imply a Russian quantitative advantage against NATO. For example, in Russian military thinking the correlation of forces on the battlefield could be altered by new breakthroughs in the application of technologies which would take advantages of asymmetries in military capabilities, and the use of information-technical measures. Some Russian military experts assess that disorganizing an adversary's command and control through blocking information transmission channels by 40-60% can decrease the correlation

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97 Timothy L. Thomas, "Russian Forecasts of Future War," *Military Review* (May-June 2019), pp. 84-87.

98 See more: Clint Reach, Vikram Kilambi, Mark Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means* (Santa Monica, CA: RAND, 2020). [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR4200/RR4235/RAND\\_RR4235.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR4200/RR4235/RAND_RR4235.pdf). Accessed November 17, 2023.

99 See more: Dave Johnson, *Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds*, Livermore Papers on Global Security No. 3. (Livermore, CA: Center for Global Security Research, 2018), p. 63. <https://cgsr.llnl.gov/content/assets/docs/Precision-Strike-Capabilities-report-v3-7.pdf>. Accessed November 17, 2023.



of forces that favors an adversary twofold—from a 6:1 to a 3:1 advantage, for example.<sup>100</sup>

If Russia's political and military leadership judged that a war is inevitable, the perceived need to seize the initiative in the IPW would create a strong impulse to attack first. There would be a strong emphasis on achieving operational objectives in the earliest days of a conflict and quickly terminating a conflict on terms favorable to Russia.<sup>101</sup> Russia's ambition to achieve advantage in the IPW is closely related with its strategy of "active defense" that envisages "a complex of measures for the preemptive neutralization of threats to state security."<sup>102</sup> As described by Gerasimov, the strategy entails "acting quickly" to "...preempt the enemy with our preventive measures, promptly identify his vulnerabilities, and create threats of unacceptable damage to him." In Gerasimov's view, this "ensures the capture and retention of the strategic initiative."<sup>103</sup>

The Russian strategy of "active defense" is based on the premise that offense is the best defense. Even something defined as a politically defensive war should be fought with offensive operations, as only the offense can defeat the enemy.<sup>104</sup> Being defensive in intent but offensive in implementation, "active defense" is another Russian concept that blurs traditional distinctions. It is regarded in Russian military thinking as indispensable for countering the Western strategy "of using precision-guided munitions [PGM] from the air, sea, and space, with the active conduct of information warfare."<sup>105</sup> It is also instrumental for leveraging Russian advantages and is seen as central to reducing the risk of a scenario of a protracted war in which an adversary is able to put its full military power to bear.<sup>106</sup>

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100 Timothy L. Thomas, "Russian Military Thought: Concepts and Elements," p. 6-3.

101 Scott Boston and Dara Massicot, "The Russian Way of Warfare: A Primer" (2017), RAND Perspective, p. 3.

102 Andrew Monaghan, *How Moscow Understands War and Military Strategy*, p. 4.

103 Dave Johnson, "Review: General Gerasimov on the Vectors of the Development of Military Strategy," Russian Studies Series 4/19, NATO Defense College (March 30, 2019). <https://www.ndc.nato.int/research/research.php?icode=585>. Accessed November 17, 2023.

104 Andrew Monaghan, *How Moscow Understands War and Military Strategy*, p. 11.

105 Timothy L. Thomas, "Russian Military Thought: Concepts and Elements," p. 9-3.

106 Scott Boston and Dara Massicot, "The Russian Way of Warfare: A Primer," pp. 3, 7.

In a conflict with a highly capable adversary such as NATO, success in the IPW relies heavily on Russia's military ability to conduct asymmetric operations. Recognizing their value, General Gerasimov called for a "holistic theory of asymmetric operations" incorporating asymmetric and indirect actions while developing new forms and methods of fighting and training military officers.<sup>107</sup> For Defense Minister Shoigu, merging of classical and asymmetric operations was one of the main characteristics of conflicts of a "new generation" in which "military actions are short and fast flowing and there is simply no time to correct mistakes."<sup>108</sup>

According to Chekinov and Bogdanov, two leading Russian military theorists, asymmetric operations entail use of "the total of the forms and methods of employing forces and assets based on the sides' non-identical capabilities."<sup>109</sup> The list of potential ways of taking advantage of asymmetric operations is open and is expanding, given the emphasis of the Russian General Staff on finding new ways of implementing the military art.<sup>110</sup> Such operations might entail:

- Achieving surprise through preemptive use of various non-military and military means, including exploitation of malware planted during peacetime in the adversary's critical infrastructure, with an aim to destroy the state control facilities of an adversary.<sup>111</sup>
- Employing unanticipated means, including the use of climate weapons or prohibited weapons, such as biological weapons or use of weapons from unanticipated geographic locations.<sup>112</sup>
- Disorganizing state government control over population by the exploitation of target density factors, by targeting power plants in vastly populated areas, for example.

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107 Timothy L. Thomas, "Russian Military Thought: Concepts and Elements," pp. 5-9.

108 Andrew Monaghan, *How Moscow Understands War and Military Strategy*, p. 3.

109 Timothy L. Thomas, "Russian Military Thought: Concepts and Elements," pp. 5-7.

110 Ibid., p. 3-3.

111 Ibid., p. 2-2.

112 Ibid., pp. 5-5 - 5-6.

- “Disorganization” of an opponent’s command and control of military forces by targeting “decisionmakers, command posts, information resources about the situation, automated C2 systems and their software, information transmission resources, and telecommunications channels.”<sup>113</sup>
- Using *maskirovka*, deception of an opponent “through a complex of activities designed to conceal from the opponent the scale, activities, and intentions of one’s own forces.”<sup>114</sup>
- Exercising “military cunning,” stratagem, or *voennaya khitrost* through unconventional decisions and employment of unanticipated operational concepts that may emerge from application of a new combination of means and methods of warfare.<sup>115</sup>
- Aggressive risk-taking cherished by Russian military thought as “the highest manifestation of a commander’s military skill, experience, endurance, and ability to anticipate.”<sup>116</sup>
- Targeting perceived source of an adversary’s advantages by counterspace attacks, for example.<sup>117</sup>
- Using countermeasures to overcome technologically superior weapon systems (use of shallow trajectories or decoys to overcome missile defense systems, for example).<sup>118</sup>

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113 Ibid., p. 6-4.

114 Ibid., p. 5-9.

115 Andrew Monaghan, *How Moscow Understands War and Military Strategy*, p. 16.

116 Timothy L. Thomas, “Russian Military Thought: Concepts and Elements,” pp. 2-7.

117 Ibid., pp. 5-11.

118 Ibid., p. 5-1.

## Escalation Management

One of the key assumptions prevalent in Russian military thought is that escalation management is both possible and key for preventing aggression. Escalation management can keep conflict from escalating to higher levels and force off-ramps or negotiations that may result in a termination of the conflict on terms favorable to Russia's interests.<sup>119</sup> Russia's approach to escalation management relies on an ability to inflict calibrated and dosed "deterrent damage" by threatening or striking critically important objects (military and economic) on the territory of the opposing state.

The damage is calibrated, intended "to sober but not to enrage": to generate opponent fear and restraint, not anger and counterescalation; to bring the opponent to critical decision points in which the costs of de-escalating and compromising some interest at stake would appear to be smaller than the costs and risks of further escalation; to be tailored to historical, economic, social, psychological, and other factors that are different for different political leadership and the societies of individual countries—as well as particular conditions and phases of the conflict.<sup>120</sup> The damage is also dosed, as the level of damage can be applied in an iterative manner and can be progressively scaled up for escalation management. In a "try and see" approach, a relatively small level of damage, depending on whether or not it achieved a desired psychological effect on the opponent, is followed by the imposition of progressively greater amounts of destruction. The ability to impose a relatively small damage, including through demonstrative strikes against a territory of the third party or attacks with reversible effects, demonstrates that real harm will follow if the course of action is not changed. The damage is understood as a "deterrent damage" or "detering damage" because—according to the 2010 Foundations of Russian Federation Politics in the Nuclear Deterrence Sphere—it is "greater than the benefit which the aggressor expects to receive as a result of using force" and "minimally sufficient" to allow Russia to achieve its goals.<sup>121</sup>

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119 Brad Roberts, *On Theories of Victory, Red and Blue*, pp. 48-50.

120 V.A. Kalganov, G.B. Ryzhov, I.V. Solovyov, "Strategic Deterrence as a Factor Ensuring Russia's National Security," *Military Thought* 31, no. 4 (2022), p. 38.

121 Michael Kofman, Anya Fink, and Jeffrey Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts* (Arlington, VA: CNA, 2020), p. 41. [https://www.cna.org/CNA\\_files/PDF/DRM-2019-U-022455-1Rev.pdf](https://www.cna.org/CNA_files/PDF/DRM-2019-U-022455-1Rev.pdf). November 17, 2023.

Russian military experts distinguish between the terms “deterrent damage” and “unacceptable damage.” The latter is usually associated with the use of strategic nuclear forces, the significant destruction of key institutions, population losses, and estimates of the time of recovery after attack.<sup>122</sup> In view of Russia’s theorists, “the criteria of unacceptable consequences, evolved from the need for ‘the murder of a nation’ in the middle of the 20th century to the substantial deterioration of the conditions for the functioning of the state and society at present.”<sup>123</sup> “Deterrent damage” is more pragmatic and allows Russia to avoid excessive expenses of resources because of the smaller requirement of forces, in contrast to “unacceptable damage.”<sup>124</sup> “Deterrent damage” is also contrasted with the concept of “assigned damage” which usually refers to levels of damage “assigned” by political-military leadership depending on operational or military-planning needs. While deterrent damage is subjective and tailored to generate psychological effects on the adversary, assigned damage refers to objective, material damage inflicted on an opponent.<sup>125</sup>

While distinct, these concepts are closely related and complementary. On the one hand, unacceptable damage constitutes an upper boundary of deterrent damage, as deterrent damage could be progressively increased until it reaches the level of unacceptable damage. On the other hand, a threat of unacceptable damage can be utilized as a psychological amplifier for limited forms of deterrent damage. The relationship between assigned damage and deterrent damage is also mutually reinforcing. While inflicting assigned damage may have warfighting aims, it can also create deterrent damage or even unacceptable damage. Likewise, countervalue or counterforce strikes, whether non-nuclear or nuclear, have primarily a psychological role of imposing deterrent damage but also can be also crafted in a way that make the Russian military better positioned for continued conflict should attempts to manage escalation fail.<sup>126</sup>

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122 Ibid., pp. 30-31, 37-38.

123 V.A. Kalganov, G.B. Ryzhov, and I.V. Solovyov, “Strategic Deterrence as a Factor Ensuring Russia’s National Security,” *Military Thought* 31, no. 4 (2022), p. 38.

124 Katarzyna Żysk, “Escalation and Nuclear Weapons in Russia’s Military Strategy,” *The RUSI Journal* 163, no. 2 (2018), p. 7.

125 Michael Kofman, Anya Fink, and Jeffrey Edmonds, pp. 34-35.

126 Ibid., pp. 27, 38-39.

Given Russia's integrated approach to conflict, it has a full spectrum approach to escalation management. This entails the use of both nuclear and non-nuclear capabilities, such as conventional long-range precision strike, counterspace, and cyber capabilities. The trend of giving non-nuclear capabilities an increasing role in escalation management was singled out by Russian military doctrine's expansion of strategic nonnuclear deterrence (SNND). The rationale behind it was that "limited-scale armed conflicts are impossible to de-escalate exclusively by threatening to use nuclear arms."<sup>127</sup> The addition of non-nuclear strategic capabilities also added rungs into escalation management efforts. For example, according to Russian military analysts, "in a crisis situation, long-range PGMs [precision guided munitions] can be used ... in order to counter the threat of escalation of a conventional military conflict . . . into a nuclear conflict and to force the enemy to de-escalate and end the confrontation."<sup>128</sup> Their employment in conflict was also perceived as the means "for offsetting the superiority of the potential adversary in some sectors, without crossing the threshold of involving strategic nuclear forces."<sup>129</sup> The psychological barrier of using strategic conventional weapons is also much lower than the use of nuclear weapons, especially in the context of local wars and the early period of regional wars. In addition, Russia's military analysts believed that their limited employment against critically important targets can have a profound psychological impact on the adversary's political leadership and population, creating effects similar to those of some nuclear weapons.<sup>130</sup>

Nuclear weapons play a critical role in escalation management. At any stage of a conflict, these weapons have an important psychological effect as the specter of nuclear war can put political and social pressure on the adversary's leadership. Also, as a conflict progresses and "dosing" of damage through non-nuclear capabilities does not achieve desired effects, Russia can transition into single or grouped nuclear strikes.<sup>131</sup>

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127 O.L. Salyukov and A.V. Shigin, p. 95.

128 Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation. The Influence of Geography and Conventional Capacity*, RAND Corporation, RR-A1233-8 (2023), p. 27. [https://www.rand.org/pubs/research\\_reports/RR-A1233-8.html](https://www.rand.org/pubs/research_reports/RR-A1233-8.html).

129 O.L. Salyukov and A.V. Shigin, p. 97.

130 Michael Kofman, Anya Fink, and Jeffrey Edmonds, pp. 13-15.

131 Ibid., p. 19.

Russian military analysts identify mutually reinforcing links between different escalation options. Conventional strikes by dual-capable systems enhance credibility of strikes with a nuclear payload. Conversely, the heightened risk of nuclear escalation, in particular with non-strategic forces, amplifies the coercive value of strategic conventional weapons. Likewise, select use of nonstrategic nuclear weapons increases credibility of resorting to strategic systems, while the heightened risk of strategic nuclear exchange enhances coercive value of limited non-strategic nuclear strikes.<sup>132</sup>

To dosage the deterrent damage, Russia's military analysts envisage phased employment of its strategic weapons against critically important targets. Russia defines critically important targets or objects as military, political, and economic targets of significant value where damage can create significant economic losses, affect the livelihood of the population, and significantly lower the military potential of the state.<sup>133</sup> These targets are carefully selected. Priority is given to those that cascading effects on an adversary's capability and resolve to fight can be created when destructed or disrupted.

Based on Russian military writings, it is possible to distinguish between three different phases of escalating conflict.<sup>134</sup> Phase one is a conventional counterforce phase that concentrates on key military targets for "functional destruction" of an adversary's armed forces. These targets tend to include command and control centers; space-based assets; key communication nodes; systems for reconnaissance, targeting, navigation, and information processing; and means of delivery for ballistic or cruise missiles.<sup>135</sup> Phase two focuses on conventional destruction of military-economic potential and other critical civilian infrastructure. This could involve include targeting non-nuclear power plants, administrative centers, civilian airports, road and rail bridges, ports, key economic and infrastructure objects related to quality of life of the population, important components of the defense-industrial complex, and mass media. Critically important targets can be also selected based on the level of damage to the state's prestige—or the degree of impediment to the state's functioning—created by their destruction, such

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132 Ibid., p. 12.

133 Ibid., p. 66.

134 Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation...*, pp. 23-25.

135 Michael Kofman, Anya Fink, and Jeffrey Edmonds, pp. 62, 68.

as: impaired control of the state or a region; harm to the authority of the state, including in the international arena; exposure of state secrets and confidential scientific-technical and commercial information; or impaired stability of the financial or banking system.<sup>136</sup> The final phase could envisage preemptive employment of nonstrategic nuclear weapons against critically important military and economic objects, followed by large-scale use of nonstrategic and strategic nuclear weapons.

In their book *Escalation and Deescalation of Crises, Armed Conflicts, and Wars*, four prominent Russian practitioners envision 17 rungs on the escalation ladder that correspond to these three phases.<sup>137</sup> In their view, the regional war that starts on rung 7 on their ladder involves not only the use of precision-guided munitions against greater sets of targets (including their employment against chemical industries and nuclear power plants to cause large-scale chemical and radiation contamination at rung 11), but also increasingly intense use of cyber capabilities and counterspace weapons. Initially, cyber capabilities are used primarily against military targets in theater and beyond without impacting strategic nuclear forces and early warning systems (rung 9), to expand into attacks aimed at disrupting the state administration system and destroying important civilian infrastructure (rung 10), and presumably beyond. Similarly, counterspace attacks will also escalate, initially refraining from attacking the missile attack warning system (rung 8). The nuclear attacks gradually expand from the demonstrative use of nuclear weapons (rung 14), to limited use against military forces or military infrastructure (rung 15), to counterforce strike (rung 16), and massive use of strategic nuclear forces and other weapons of mass destruction (rung 17).<sup>138</sup>

The principal vehicle for executing Russia's military plans to manage escalation and support warfighting aims are concepts of strategic

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136 Dave Johnson, "Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds," p. 53.

137 Clint Reach, "Book Review: Andrei Kokoshin, Iurii Baluevskii, Viktor Esin, Aleksandr Shliakhturov, *Escalation and Deescalation of Crises, Armed Conflicts, and Wars* (Voprosy eskalatsii i deeskalatsii krizisnykh situatsii, vooruzhennykh konfliktov i voyn; LENAND, 2021, 88 pages)," NATO Defense College, Russian Studies Series 03/2022, <https://www.ndc.nato.int/research/research.php?icode=751&lang=fr>. Accessed November 17, 2023.

138 Clint Reach, "Book Review..."



operations.<sup>139</sup> Such operations constitute a lens through which supreme echelons of Russia military—in particular the General Staff and commanders of the Military Districts—“design, plan, and execute combined arms operations, and a mechanism that mediates between the political objectives of war and a host of missions entrusted to the military.”<sup>140</sup> Such operations also serve as a mechanism of operational level integration of all-domain capabilities, including conventional and nuclear precision strike systems.<sup>141</sup> Of the Russian strategic operations, the Strategic Operation for the Destruction of Critically Important Targets (SODCIT) has particular relevance for Russia’s ability to impose prescribed dosage of deterrent damage in regional or large-scale war.<sup>142</sup> It is assessed that before 2020, SODCIT was combined with the Strategic Operation of Nuclear Forces (SONF) into the more comprehensive Strategic Deterrence Forces Operation (SDFO) to facilitate joint planning and employment of nuclear and non-nuclear strategic forces.<sup>143</sup>

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Assessments by Russian leadership of the ability to set the conditions in peacetime for success in wartime, to gain the decisive advantage in the initial stage of war, and to manage escalation provide useful insights about the Russian’s net assessment of military balance for a war against NATO. The understanding of Russia’s net assessment would be even more comprehensive with inclusion of other considerations that may influence Russian leaders thinking but which are beyond the scope of this paper.

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139 Strategic Operations are defined by Russia’s Military Encyclopedia as: “A form of military action of strategic scale, carried out by the Armed Forces and other troops during war. It is a set of coordinated and interrelated goals, tasks, place and time of strikes, operations and combat operations of the units and formations of various services of the Armed Forces, conducted simultaneously and consistently according to a single concept and plan to achieve the intended strategic goals.” Citation from: Dave Johnson, “Russia’s Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds,” p. 29.

140 Dmitry (Dima) Adamsky, *Moscow’s Aerospace Theory of Victory: Western Assumptions and Russian Reality* (Arlington, VA: CNA, 2021), p. 5.

141 Michael Kofman, Anya Fink, and Jeffrey Edmonds, p. 64.

142 Dave Johnson, “Russia’s Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds,” pp. 52-53; Timothy L. Thomas, “Russian Military Thought: Concepts and Elements.” pp. 8-6 – 8-8.

143 Clint Reach, et al., “Russia’s Evolution Toward a Unified Strategic Operation...,” pp. 20-21.

For example, an underlying feature of Russian military strategy is the need for an enhanced system of territorial defense. As Russian strategists think about how to gain an offensive advantage, they also focus on how to effectively defend its rear. This reflects the Russian approach to strategy; using the words of the Soviet military theoretician Alexander Svechin, strategy takes into account the “entire rear, both his own and his enemy’s, represented by the state with all its economic and political capabilities.”<sup>144</sup> The key feature of such an approach is the perceived need for shielding Russia against threat of “color revolutions” and maintaining the capability to mobilize the entire nation for the state of war.

The logical consequence of this approach is that being prepared for a war with NATO requires successful efforts in shielding Russia’s population from Western influences that may result in “color revolutions” and undermine Russia’s ability to wage war.<sup>145</sup> Such informational-psychological influences, in Russia’s military leadership view, could be “far more destructive for a country’s economy, social sphere, and other spheres of vital activities than those that result from the destruction of individual critically important facilities.”<sup>146</sup> Winning the war also requires preparing moral-psychological, technical, and rear-echelon activities of the armed forces. It also requires prepping the entire government, economy, population, and territory of the state for war. This reflects Russia’s “whole of nation” approach to territorial defense that goes beyond Western whole of government approaches to conflict and competition.<sup>147</sup>

In this context, Russia pays particular attention to the concept of state mobilization, defined as a “complex of state measures for activating the resources, strength and capabilities for the achievement of military-political aims.”<sup>148</sup> As observed by Monaghan, this includes practical measures for the transition to war of the country’s military, economic, and state

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144 Andrew Monaghan, *How Moscow Understands War and Military Strategy*, p. 16.

145 Tracey German, “Harnessing protest potential: Russian strategic culture and the colored revolutions,” *Contemporary Security Policy* 41, no. 4 (2020), pp. 547-548. DOI: 10.1080/13523260.2020.1757251.

146 General Major Dylevskiy’s Presentation at the 6th Moscow International Security Conference (April 26-27, 2017). Cited by Timothy L. Thomas, “Russian Military Thought: Concepts and Elements,” pp. 8-28 – 8-29.

147 Dave Johnson, “NATO Collective Defense in the Era of Unpeace,” pp. 38, 40.

148 Andrew Monaghan, “Russian State Mobilization. Moving the Country on to a War Footing,” Research Paper (London, UK: Chatham House, 2016), p. 9.

institutions at all levels (general mobilization) or some part of them (partial mobilization). These measures could be taken openly or covertly and lead to the state of “mobilization preparation” and “mobilization readiness.”<sup>149</sup> In military terms, successful state mobilization requires flexible and responsive national command and control, operational command structures, high-readiness full-spectrum capability forces, and plans for strategic operations. The transition of the military and civil defense forces to a war footing also requires enough trained people to bring units up to strength and create new formations; stored supplies and equipment such as arms, ammunition and fuel; and a structured system for announcing mobilization as well as gathering and distributing associated resources.<sup>150</sup>

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149 Ibid.

150 Ibid., pp. 11-14.

# Assessment of the Progress in Setting Conditions in Peacetime in War Against NATO

What is Russia's net assessment of progress in preparing the peacetime conditions for success in war against NATO? How do Russian decisionmakers assess success in internally destabilizing NATO? Do they perceive NATO allies becoming collectively more united to confront Russia over the past two decades, or divided? What are the lessons that Russian leadership may draw from its aggression against Ukraine? How does Russian leadership perceive opportunities and challenges for creating peacetime conditions for success in war against NATO over the next decade?

To postulate answers to these questions, this chapter will draw on analysis of Russia's relative progress in waging its destabilization campaign. Assessment of such progress can be inferred from statements made by Russia's decisionmakers over the past two decades. While providing a comprehensive overview of Russia's efforts, the discussion in this chapter will focus on the non-military means of destabilization employed by Russia, with a particular attention given to the evolution of Russia's information confrontation toolkit and activities. The chapter will consist of four parts. The first will discuss adaptations made by Russia since the early 2000s to improve its comprehensive toolkit for waging strategic destabilization campaign against NATO allies. The second examines possible Russian political leadership assessments of progress. The third discusses whether and how Russian leadership assessments have changed since February 2022 in the aftermath of its full-scale aggression against Ukraine. The last chapter concludes with postulating how Russian leadership perceives opportunities and challenges for the next decade.

## Russian Progress Until 2022

Over the last two decades, Russia has employed a broad variety of measures to influence NATO allies' individual and collective resolve and ability to confront Russia.

In the political sphere, Russia supported "friendly" political parties in Europe by providing financial backing to the Front National in France or

aiding right and left populist parties in Germany.<sup>151</sup> To lobby for policies favorable to Russia, it cultivated close ties with political and business elites in Europe.<sup>152</sup> Russia also significantly expanded its espionage activities in NATO countries. It engaged in subversive activities such as sponsoring a failed 2016 coup in Montenegro (which was then aspiring to join NATO) or exacerbating the 2015-2016 refugee crisis in Syria to internally destabilize the European Union.<sup>153</sup>

In the economic sphere, Moscow sought to further increase European energy dependence on Russia. Between 2009 and 2021, Russia's gas pipeline deliveries to Europe increased, amounting to 45% of European imports and 40% of its consumption in 2021.<sup>154</sup> The delivery options expanded with the completion of Nord Stream I project in 2012, allowing for direct transfer of gas from Russia to Germany, and the Nord Stream II pipeline in 2021.<sup>155</sup> In addition, Russia enjoyed a position of being one of the largest oil exporters to the Europe with 34% of oil and 39% of oil product imports to Europe originating from Russia in 2021.<sup>156</sup> By increasing European dependence, Russia expanded its options for energy blackmail in Europe, as well as for driving a wedge between NATO allies divided about the consequences of Nord Stream projects for European energy security.

In the military sphere, as will be more closely discussed in Chapter 5, over the last two decades Russia also sought to sow fears within the NATO populace about the possibility and the costs of direct clash with Russia.

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151 "International Security and Estonia 2017," Estonian Foreign Intelligence Service, 2017, p. 19. <https://www.valisluureamet.ee/doc/raport/2017-en.pdf>.

152 Oliver Pieper. "Putin and Schröder: A controversial friendship," DW (August 8, 2022), <https://www.dw.com/en/putin-and-schröder-a-special-german-russian-friendship/a-55219973>.

153 Sam Jones, John Paul Rathbone, "'Tip of the iceberg': rise in Russian spying activity alarms European capitals," *FT* (March 26, 2022), <https://www.ft.com/content/bd74a542-3ce3-44de-a93a-36dc5929912b>; Kia Imazu Fatahi Faz Abad, "Weapons of Mass Migration in the 21st Century: Russia, Belarus, and the European Union, Fordham University" (Spring 2022), [https://research.library.fordham.edu/cgi/viewcontent.cgi?article=1092&context=international\\_senior](https://research.library.fordham.edu/cgi/viewcontent.cgi?article=1092&context=international_senior).

154 "Energy Fact Sheet: Why does Russian oil and gas matter?" IEA (March 21, 2022), <https://www.iea.org/articles/energy-fact-sheet-why-does-russian-oil-and-gas-matter>; Anne-Sophie Corbeau, "Europe's Dependence on Russian Gas," Columbia University (March 10, 2022), [https://www.energypolicy.columbia.edu/publications/qa-europe-s-dependence-russian-gas#\\_edn6](https://www.energypolicy.columbia.edu/publications/qa-europe-s-dependence-russian-gas#_edn6).

155 Ben Knight, "The history of Nord Stream," DW (July 23 2021). <https://www.dw.com/en/the-history-of-nord-stream/a-58618313>.

156 "Oil Market and Russian Supply," IEA (undated). <https://www.iea.org/reports/russian-supplies-to-global-energy-markets/oil-market-and-russian-supply-2>.

Visible actions since Russia's invasion of Ukraine in 2014 include indirect and direct nuclear threats, attempts to create military incidents through dangerous overflights and buzzing of NATO military aircraft, and efforts to undermine norms against chemical weapons such as covering chemical use by the Syrian government. In addition, the attempted assassination of Sergei Skripal in 2018 by Russian intelligence officers using the military-grade nerve agent Novichok demonstrated that Russia possesses chemical weapons that, if needed, might be used against targets in NATO territory.

Among the different instruments assessed to create peacetime conditions for success in wartime, the most visible progress by Russia was made in creating the system of mutually reinforcing information confrontation tools. Significant investments in these tools followed the assessment made by then-Prime Minister Vladimir Putin in 1999 that Russia “surrendered this terrain some time ago,” but was “entering the game again.”<sup>157</sup> It also followed the Russian military's conclusion about the effectiveness of manipulating the information sphere and difficulties of defending against it.<sup>158</sup> Russian political leadership added a new sense of urgency to such investments in response to the Arab Spring in early 2010s and the Bolotnaya protests in Moscow before the 2012 presidential elections.<sup>159</sup> As a result of the renewed focus, Russia has been adapting its information psychological and information-technical toolkit since late 1990s to rapid shifts in modern communications technology. Significant efforts were made to adapt Soviet-era concepts to new realities and to create a “whole-of-state” approach to information confrontation. Traditional “active measures” techniques—scattering leaflets, disseminating printed materials, manipulating the radio or television, or using of agents of influence to promote desired narratives, for example—were supplemented with incrementally increased use of internet blogs, websites, and SMS text messages. The country also incorporated new methods of digital “information-psychological effects” such as “machine translations” and

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157 Paul Goble, “Russia: Analysis From Washington -- A Real Battle On The Virtual Front,” RFE/RL (October 9, 1999). <https://www.rferl.org/a/1092360.html>.

158 Evan Osnos, David Remnick, and Joshua Yaffa, “Trump, Putin, and the New Cold War,” *The New Yorker* (February 24, 2017). <https://www.newyorker.com/magazine/2017/03/06/trump-putin-and-the-new-cold-war>.

159 Joe Cheravitch, “The Role of Russia's Military in Information Confrontation,” CNA (June 2021), pp. 26-28. <https://www.cna.org/reports/2021/06/role-of-russian-military-in-information-confrontation>.

computer-based audio and video production, as well as sophisticated cyber-enabled influence operations.<sup>160</sup>

The Russian military also adapted organizationally. While the Russian General Staff remained the nerve center and the GRU (the Main Directorate of the General Staff) remained the main “muscle” behind Russia’s military contemporary information confrontation, existing units were adapted and new units were created to conduct psychological operations or support such operations through technical means. This, for example, included adapting the Soviet-rooted 85th Main Special Service Center (Unit 26165) and creating the GRU’s Center for Special Technologies (Unit 74455) in the late 2000s. Other organizational steps included establishing a “military science unit” in 2013 to help recruit relevant cyber specialists, and the “Elite of the Russian Army” (ERA) Technopolis in 2017 to house and support GRU units that were responsible for cyber operations. To support operations at the theater level, as revealed in 2016, the “information confrontation centers” were established in the Military Districts. Information confrontation has been incorporated in strategic military exercises since 2016. The most significant organizational change was, however, establishing the Information Operations Troops.<sup>161</sup> When revealing their existence in 2017, Shoigu boasted that “propaganda should be smart, accurate and effective” and that the new formations “will be much more efficient than the ‘counter-propaganda’ department that operated during the Soviet period.”<sup>162</sup>

Beyond Russia’s military, the whole-of-state approach to information confrontation also included efforts of other security services to enhance relevant capabilities. This included the Russia’s Foreign Intelligence Service (SVR) and Russia’s Federal Security Service (FSB).<sup>163</sup> To exploit varied and overlapping approaches to disseminate information and influence targeted audiences, security service capabilities were complemented with

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160 Ibid.

161 For a more detailed overview of evolution of Russia military’s information confrontation toolkit and military units involved in information confrontation see: Ibid., pp. 7-22.

162 Sergey Sukhankin, “Russian ‘Cyber Troops’: A Weapon of Aggression,” *Eurasia Daily Monitor* (May 12, 2017). [https://www.realcleardefense.com/articles/2017/05/12/russian\\_cyber\\_troops\\_a\\_weapon\\_of\\_aggression\\_111368.html](https://www.realcleardefense.com/articles/2017/05/12/russian_cyber_troops_a_weapon_of_aggression_111368.html). Accessed November 17, 2023.

163 Joe Cheravitch, “The Role of Russia’s Military in Information Confrontation,” p. 9. See also: “International Security and Estonia 2021,” Estonian Foreign Intelligence Service (2021), p. 60. <https://www.valisluureamet.ee/doc/raport/2021-en.pdf>.

state-funded media activities.<sup>164</sup> One example is *Russia Today*, a television program that began broadcasting in English in December 2005. Initially, the program focused on showcasing Russia's culture, as well as improving Russia's image in the world. However, following the lessons from Russia's 2008 war with Georgia, it was rebranded into *RT*, a show that spread state-sanctioned Russian narratives to foreign audiences. Over the years it expanded into a network of television channels, websites, and social media channels broadcasting in English, Arabic, Spanish, Russian, German, and French. Similarly, following the 2013 presidential executive order "to raise efficiency of state mass media outlets," Russia created the news media outlet Sputnik, which targeted international audiences with radio broadcasts, websites, and social media in more than 30 languages.<sup>165</sup>

Russian information psychological and information-technical operations were also supported by non-state actors—individuals, hacker groups, and criminal organizations co-opted by state institutions. The GRU, in particular, has been known in recent years for outsourcing aspects of its cyber-related operations to so-called "patriotic hackers."<sup>166</sup> Commercial companies also played an important role in Russian activities. One example is the Internet Research Agency (IRA), a Russian troll farm based in St. Petersburg funded by Evgeny Prigozhin. The IRA employed and trained over 1,000 people to engage in around-the-clock influence operations—initially targeting Russian citizens and then, at least since 2013, targeting the United States. It is estimated that between 2013 and 2018, the IRA's Facebook, Instagram, and Twitter campaigns engaged tens of millions of users in the United States, and the height of its activities often corresponded to important dates in the U.S. political calendar, and international events. The breadth of the attacks

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164 U.S. Department of State, "Pillars of Russia's Disinformation and Propaganda Ecosystem," GEC Special Report (August 2020). [https://www.state.gov/wp-content/uploads/2020/08/Pillars-of-Russia%E2%80%99s-Disinformation-and-Propaganda-Ecosystem\\_08-04-20.pdf](https://www.state.gov/wp-content/uploads/2020/08/Pillars-of-Russia%E2%80%99s-Disinformation-and-Propaganda-Ecosystem_08-04-20.pdf).

165 U.S. Department of State, "Kremlin-Funded Media: RT and Sputnik's Role in Russia's Disinformation and Propaganda Ecosystem," GEC Special Report (January 2022), pp. 12, 19-20. [https://www.state.gov/wp-content/uploads/2022/01/Kremlin-Funded-Media\\_January\\_update-19.pdf](https://www.state.gov/wp-content/uploads/2022/01/Kremlin-Funded-Media_January_update-19.pdf). See also: President of Russia, "Executive order on measures to make state media more effective" (December 9, 2013). <http://en.kremlin.ru/events/president/news/19805>.

166 Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation...*, pp. 113-115.



included other popular social media platforms, online games, browser extensions, and music apps to reach targeted groups.<sup>167</sup>

Over the last two decades, the period of conceptualizing, building, organizing, and experimenting with modern information confrontation tools was followed by their increasing practical application worldwide. In the beginning of 2000s there was initially a limited number of information-psychological and information-technical operations attributable to Russia.<sup>168</sup> The first notable example was the 2007 distributed denial of service attack against Estonia that can be interpreted as a part of Russia's information operation to disrupt Estonian society.<sup>169</sup> Another major milestone was the 2008 war against Georgia, when Russia's nonattributable cyberattacks and influence operations accompanied the preparation and conduct of conventional military operations against another country for the first time. Russia's information-technical measures during this period included web page defacements, denial of service, and distributed denial of service attacks against Georgian government, media, and financial institutions, and other public and private targets. Informational-psychological actions involved influencing global and local opinion that the conflict was a result of aggressive policy of Georgian government and the necessity to protect the Russia-speaking population. From Russia's perspective, the war exposed deficiencies in these two types of operations. However, the overall assessment of Anatoliy Tsyganok, then deputy chief of the Russia's General Staff, was that even if Russia lost the information war at the preliminary stage of the conflict, it won it at the end of the war.<sup>170</sup>

Russia's information operations against Ukraine in 2014 demonstrated the practical application of over a decade's worth of observations and experimental efforts conducted since the 2000s, including its

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167 Philip N. Howard et al., "The IRA, Social Media and Political Polarization in the United States, 2012-2018," University of Oxford (undated), pp. 7-9, <https://www.intelligence.senate.gov/sites/default/files/documents/The-IRA-Social-Media-and-Political-Polarization.pdf>; Renee DiResta, et al., "The Tactics & Tropes of the Internet Research Agency, New Knowledge" (undated), <https://www.intelligence.senate.gov/sites/default/files/documents/NewKnowledge-Disinformation-Report-Whitepaper.pdf>, pp. 3-6.

168 Joe Cheravitch, "The Role of Russia's Military in Information Confrontation," p. 28.

169 Rainn Ottis, "Analysis of the 2007 Cyber Attacks Against Estonia from the Information Warfare Perspective," Cooperative Cyber Defence Center of Excellence (undated), [https://ccdcoe.org/uploads/2018/10/Ottis2008\\_AnalysisOf2007FromTheInformationWarfarePerspective.pdf](https://ccdcoe.org/uploads/2018/10/Ottis2008_AnalysisOf2007FromTheInformationWarfarePerspective.pdf).

170 Emilio J. Iasiello, "Russia's Improved Information Operations: From Georgia to Crimea," *Parameters* 47, no. 2 (2017), pp. 51-54.

information activities against Georgia. For example, during the conflict, GRU psychological operations specialists used social media on an unprecedented scale to influence Ukrainian and international audiences. The television broadcast was used to generate support for actions in Crimea and to bolster the theme of Moscow's necessary intervention to protect native Russian speakers. By denying its direct involvement until the later stages of the conflict, Russia continued messaging its desire to de-escalate the situation while creating a *fait accompli* on the ground. To gain a tactical advantage, cyberattacks against Crimea shut down the telecommunications infrastructure, disabled major Ukrainian websites, and jammed the mobile phones of key Ukrainian officials before Russian forces entered the Crimean Peninsula.<sup>171</sup>

With the severe deterioration of its relationship with the West in the aftermath of its aggression against Ukraine, Russia intensified its information confrontation campaigns against the United States and its European allies. The most notable example was its “sweeping and systematic” interference in the 2016 U.S. presidential election.<sup>172</sup> Russia operations involved a social media campaign waged by the Internet Research Agency and GRU, hack-and-leak operation waged by GRU, use of overt propaganda by state-funded media such as *RT*. It also took advantage of third-party intermediaries. According to the U.S. Intelligence Community Assessment, Moscow's actions demonstrated “a significant escalation in directness, level of activity, and scope of effort compared to previous operations.”<sup>173</sup> In addition to influencing the results of the election, the campaign entailed broader objectives as it was part of “a broader, sophisticated, and ongoing information warfare campaign designed to sow discord in American politics and society.”<sup>174</sup>

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171 Ibid., pp. 54-58; Joe Cheravitch, “The Role of Russia's Military in Information Confrontation,” p. 29.

172 Robert S. Mueller, III, *Special Counsel, Report On The Investigation Into Russian Interference In The 2016 Presidential Election, Volume I of II*, U.S. Department of Justice (March 2019), p. 1. <https://www.justice.gov/archives/sco/file/1373816/download>.

173 Intelligence Community Assessment, “Assessing Russian Activities and Intentions in Recent US Elections,” ICA 2017-01D (January 6, 2017), p. ii. [https://www.dni.gov/files/documents/ICA\\_2017\\_01.pdf](https://www.dni.gov/files/documents/ICA_2017_01.pdf).

174 United States Senate, *(U) Report of the Select Committee on Intelligence, On Russian Active Measures Campaigns and Interference in the 2016 U.S. Election, Volume 2: Russia's Use of Social Media With Additional Views*, Report 116-Xx, pp. 4-5, [https://www.intelligence.senate.gov/sites/default/files/documents/Report\\_Volume2.pdf](https://www.intelligence.senate.gov/sites/default/files/documents/Report_Volume2.pdf).

Russia's operations to influence electoral processes and create discord were not limited to the United States—additional targets included other NATO allies. For example, in 2017, Russia implemented the online “hack and leak” operation to compromise the accounts of members of the French political party En Marche! before the elections. Additionally, in 2016, Russia sought to influence the referendum on the UK's membership of the EU. And in 2014, it undertook influence campaigns in relation to the Scottish independence referendum.<sup>175</sup> Russia also stoked anti-migrant fervor in European countries and disinformation about Covid-19 to undermine public trust in national healthcare systems.<sup>176</sup>

## **Russian Leadership Assessments of Progress**

It is unclear what specific criteria Russian decisionmakers use to evaluate effectiveness of their destabilization campaign against the West. The assessment of progress may vary among Russia's stakeholders. It may also starkly contrast with evaluation measures used by President Putin. This analysis assumes that, similarly to their Soviet predecessors, current Russian political leadership evaluates the effectiveness of non-military actions against the West through the prism of their long-term cumulative effects. Adversaries are destabilized via drops that “... makes a hole in a stone not by force, but by constant dripping.”<sup>177</sup> From this perspective, “...a single operation, however competently conceived and executed, cannot significantly tip the existing power balance.”<sup>178</sup> What matters is the sustained campaign that over a period of several years could lead to a desired cumulative effects.

There are several reasons why Russia's political leadership may think that over the last two decades the efforts to internally destabilize

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175 Intelligence and Security Committee of Parliament, “Russia,” UK House of Commons (July 21, 2020), pp. 5, 12-13. [https://isc.independent.gov.uk/wp-content/uploads/2021/03/CCS207\\_CCS0221966010-001\\_Russia-Report-v02-Web\\_Accessible.pdf](https://isc.independent.gov.uk/wp-content/uploads/2021/03/CCS207_CCS0221966010-001_Russia-Report-v02-Web_Accessible.pdf).

176 U.S. Department of State, “The Coronavirus and Disinformation: Russia Remains True to Form,” GEC Counter-Disinformation Dispatches, no. 5 (May 27, 2020). <https://e.america.gov/t/ViewEmail/i/B253AE94519376FD2540EF23F30FEDED/F2AB8F86DC5635A4AF060D655554232>.

177 General Aleksandr Sakharovsky, head of KGB foreign intelligence from 1955 to 1970, cited in: U.S. Department of State, “The Goals and Main Tactics of Russia's Disinformation,” GEC Counter-Disinformation Dispatches, no. 11 (August 23, 2021). <https://e.america.gov/t/ViewEmail/i/CD46E76EEAD07F9E2540EF23F30FEDED>.

178 Ibid.

NATO allies and the cohesion of the entire Alliance have failed. One may argue that even though Russia achieved some tactical successes, these successes were not translated to any significant strategic gains against the Alliance. Instead of becoming weaker, NATO has become more cohesive and resolved to confront Russia.<sup>179</sup>

First, such a net assessment could be based on the analysis of NATO strategic documents and summit communiqués since 2010. Once a potential strategic partner of the Alliance, Russia has now been recognized as a direct threat to NATO's security. Following Russia's annexation of Crimea, all NATO allies rather promptly recognized Russian destabilization efforts and labeled these activities as a hybrid warfare. NATO members recognized the need to improve their resilience, including against Russian efforts to target critical infrastructure and disseminate propaganda.

Second, concrete actions of the Alliance members also make it increasingly difficult for Russia to undermine NATO's unity. Instead of diminishing the moral and psychological resistance of NATO allies, Russian military threats and provocations have led to gradual NATO efforts to reinforce its deterrence and defense posture and improve resilience to non-military actions to destabilize the Alliance. Despite all of Russia's efforts, the sanctions imposed on Russia following the illegal annexation of Crimea were not only maintained—they were gradually strengthened. Intelligence resources have been also reprioritized back to Russia following the focus on the terrorist threat and power projection operations outside of the Euro-Atlantic area.<sup>180</sup>

Third, Russia's "information-psychological" and "informational-technical" operations began to face increasing scrutiny from more than just governments and Western media. Western private cybersecurity companies also started to closely examine these activities. There has been an increase in the attribution of Russian malicious activities, and the cyber environment in which Russia was able to operate pre-2014 or pre-2016 has changed dramatically—putting them at a disadvantage. Following the disruption created in 2016, observers of Russian influence and cyber activity generally

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179 Jacek Durkalec et al., "Net Assessment and 21st Century Strategic Competition," workshop summary, Center for Global Security Research, Lawrence Livermore National Laboratory (July 2021), p. 15. [https://cgsr.llnl.gov/content/assets/docs/NetA\\_Workshop\\_Summary.pdf](https://cgsr.llnl.gov/content/assets/docs/NetA_Workshop_Summary.pdf). Accessed November 17, 2023.

180 Intelligence and Security Committee of Parliament, pp. 22-23.

viewed 2020 as a failure by Russian actors “to mount any major hacking or disinformation operations to interfere in the presidential election.”<sup>181</sup>

Furthermore, some of Russia’s destabilizing activities conducted over recent years have demonstrated its incompetence. One example is its attempt to infiltrate the Organization for the Prohibition of Chemical Weapons (OPCW) or its propaganda aimed at covering up the attempt to assassinate former Russia’s intelligence officer Sergei Skripal. Some of the operations also exposed the bitter rivalry and lack of coordination between Russia’s different intelligence services.<sup>182</sup> Observers also point to a certain hubris in the Russian approach that “the complex web of technical and sociological networks underpinning an adversary’s will and ability to fight could be exhaustively catalogued and conclusively subverted.”<sup>183</sup> The skepticism about Russia’s successes was amplified by difficulties in empirically quantifying the impact of influence operations, including on measuring the effect of its efforts to influence elections.

The above assessments, however, do not seem to reflect the framework in which Russia’s own decisionmakers are evaluating the cumulative effects of ongoing destabilization campaigns. Russian political and military leadership, in contrast, seem to believe that their campaigns are improving Russia’s long-term competitive position towards the West. According to a U.S. intelligence assessment, the Russian intelligence services—and perhaps other institutions involved in the campaign to influence the 2016 U.S. presidential elections—would have seen it “as at least a qualified success because of their perceived ability to impact public discussion.”<sup>184</sup> Putin personally ordered this influence campaign,<sup>185</sup> and there are no indications that his evaluation was different. Russia’s election interference operations and destabilization efforts against the United States and its

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181 Joe Cheravitch, “The Role of Russia’s Military in Information Confrontation,” pp. 36-37.

182 Ibid., pp. 37-38.

183 Gavin Wilde, “Assess Russia’s Cyber Performance Without Repeating Its Past Mistakes,” War on the Rocks (July 21, 2022). <https://warontherocks.com/2022/07/assess-russias-cyber-performance-without-repeating-its-past-mistakes/>.

184 Ibid., p. 5.

185 Intelligence Community Assessment, p. 2.

allies have continued,<sup>186</sup> and it seems unlikely Putin would provide consent to such activities if he believed that they were counterproductive.<sup>187</sup> Despite all setbacks experienced by the GRU, Putin's speech at the ceremony to mark the centenary of the GRU in 2018 projected his confidence in the unique capabilities of Russia's intelligence services.<sup>188</sup> Even though his remarks cannot be taken at face value, Prigozhin—the close associate of Putin—boasted in 2022 that “We have interfered [in U.S. elections], we are interfering, and we will continue to interfere. Carefully, accurately, surgically and in our own way, as we know how to do...During our pinpoint operations, we will remove both kidneys and the liver at once.”<sup>189</sup>

Evaluation by Russian leadership of the international context in which the destabilization campaign is taking place provides useful insights about their perception of progress in setting peacetime conditions for success in wartime against NATO. Positive or negative changes in the international context seem to affect the political leadership's interpretations of whether and to what extent Russia is closer to this goal. Additionally, what has been visible in statements of Russian politicians over the last 20 years is their growing conviction that because of global trends, the ability of the “collective West” to confront Russia is weakening.

The major reason for this, in the Russian leadership's view, is the radical change in the international system. Over the last decade Russian political leaders, including Putin, expressed increasing confidence about the emergence of a polycentric world order in which the United States—and therefore Western influence—is declining, and in which Russia's role as “an independent center of global politics” is rising.<sup>190</sup> While at the beginning of 2000s, Russia's politicians viewed the formation of polycentric world order

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186 U.S. Department of Treasury, “Treasury Targets the Kremlin's Continued Malign Political Influence Operations in the U.S. and Globally” (July 29, 2022). <https://home.treasury.gov/news/press-releases/jy0899>.

187 See, for example: Alec Luhn, “Pro-Kremlin journalists win medals for ‘objective’ coverage of Crimea,” *The Guardian* (May 5, 2014).

188 President of Russia, “Ceremonial event to mark centenary of GRU” (November 2, 2018). <http://en.kremlin.ru/events/president/news/59032>.

189 “Russia's Prigozhin admits interfering in U.S. elections,” Reuters (November 7, 2022). <https://www.reuters.com/world/us/russias-prigozhin-admits-interfering-us-elections-2022-11-07/>.

190 Sergey Lavrov, “Statement and answers to questions at the Primakov Readings International Forum” (October 2, 2019). [https://russiancouncil.ru/en/analytics-and-comments/comments/statement-and-answers-to-questions-at-the-primakov-readings-international-forum/?sphrase\\_id=61696488](https://russiancouncil.ru/en/analytics-and-comments/comments/statement-and-answers-to-questions-at-the-primakov-readings-international-forum/?sphrase_id=61696488).

as merely “the theory,”<sup>191</sup> in the mid-2010s they expressed confidence that this is “an objective process.”<sup>192</sup> Their confidence grew even further at the end of 2010s and the beginning of the next decade, as they portrayed the polycentric world order as “already created”<sup>193</sup> and an “irreversible” fact.<sup>194</sup> Such an assessment was also reflected in Russia’s Strategic Forecast for the period up to 2035, the main results of which were presented publicly in 2019 by Nikolai Patrushev, secretary of the Russian Federation’s Security Council. Among four future scenarios—1) transition to a polycentric world order, 2) continuation of the United States’s attempts to maintain its dominance, 3) formation of a bipolar world order, and 4) intensification of regionalization processes, Russia’s prevailing assessment was that the dominant trends pointed to the first scenario. While publicly presenting the results of the forecast, Patrushev claimed that the position of the West was gradually weakening, and Russia was able to restore its potential and regain its lost global influence.<sup>195</sup>

In this context, Russian decisionmakers have framed the world’s collective responses since 2014 to Russia’s aggression against Ukraine not as a sign of regained Western strength, but merely a futile attempt to regain declining “monopoly on influence in the world” and “vanishing dominance.”<sup>196</sup> For example, according to Russian Foreign Minister Sergey Lavrov, Western leaders simply failed to notice “the depth and pace of change around the world and where it is headed” and instead continued

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191 President of Russia, “Press Conference with Russian and Foreign Media” (December 23, 2004). <http://en.kremlin.ru/events/president/transcripts/22757>.

192 Sergey Lavrov, “Remarks and answers to media questions at the Primakov Readings International Forum” (June 30, 2017). <https://thailand.mid.ru/en/key-issues/2663-foreign-minister-sergey-lavrov-s-remarks-and-answers-to-media-questions-at-the-primakov-readings-international-forum>.

193 President of Russia, “Vladimir Putin’s annual news conference” (December 19, 2019). <http://en.kremlin.ru/events/president/news/62366>.

194 Sergey Lavrov, “Address to the readers of RIAC’s digest ‘Ten Years in the Global World,’” (December 9, 2021). [https://www.mid.ru/en/foreign\\_policy/news/-/asset\\_publisher/cKNonkJE02Bw/content/id/4988643](https://www.mid.ru/en/foreign_policy/news/-/asset_publisher/cKNonkJE02Bw/content/id/4988643).

195 “Patrushev: US seeks to get rid of international legal framework,” Rg.ru (November 11, 2019) [in Russian]. [https://rg.ru/2019/11/11/patrushev-ssha-stremiatsia-izbavitsia-ot-mezhdunarodno-pravovyh-ramok.html?mc\\_cid=c50b5bb139&mc\\_eid=4b516b0c01](https://rg.ru/2019/11/11/patrushev-ssha-stremiatsia-izbavitsia-ot-mezhdunarodno-pravovyh-ramok.html?mc_cid=c50b5bb139&mc_eid=4b516b0c01).

196 “Sergei Shoygu on how to save the Russian Army,” <https://www.mk.ru/politics/2019/09/22/sergey-shoygu-rasskazal-kak-spasali-rossiyskuyu-armiyu.html> [in Russian]; Sergey Lavrov, “Remarks and answers to questions during the online session ‘Russia and the post-COVID World,’ held as part of the Primakov Readings international forum, Moscow” (July 10, 2020), [https://www.mid.ru/en/foreign\\_policy/news/-/asset\\_publisher/cKNonkJE02Bw/content/id/4217691](https://www.mid.ru/en/foreign_policy/news/-/asset_publisher/cKNonkJE02Bw/content/id/4217691).

with “their destructive and clearly misguided policy.”<sup>197</sup> Lavrov felt that the West became “stubbornly reluctant” to acknowledge change and was “trying to impede the natural course of history.”<sup>198</sup> Similarly, Putin highlighted the emergence of Russia as “a mighty and powerful player” that “must be reckoned with” and claimed that the West was “pushing Russia back” and thwarting its growing influence.<sup>199</sup> Russian leadership felt this was happening despite the fact that “the correlation of forces, potentialities and positions of states has seriously changed...” and the United States itself was no longer as powerful as during the unipolar moment.<sup>200</sup> They also perceived that the European Union was also losing strength, as it lacked independence from the United States and had a voice on Russia driven by “a Russia-hating minority.”<sup>201</sup> Placed within the context of all the developments that had taken place since his 2007 speech at the Munich Security Conference, Putin claimed that the realities at the beginning of 2020s were starkly different in comparison.

Russian decisionmakers were not the only ones thinking along such lines. These sentiments also became prevalent among Russian international relations experts, with only few voices of dissent.<sup>202</sup> This point of view was promoted by Russian research centers specializing in forecasting the changes in Russia’s global position.<sup>203</sup> For example, in January 2022, a month before Russian full-scale invasion against Ukraine,

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197 Sergey Lavrov, “Statement and answers to questions at the Primakov Readings International Forum” (October 2, 2019).

198 Ibid.; Sergey Lavrov, “Address to the readers of RIAC’s digest...”

199 President of Russia, “Vladimir Putin’s annual news conference” (December 20, 2018), <http://en.kremlin.ru/events/president/news/59455>; “Attempts to deter Russia intensify as it grows stronger — Putin,” TASS (February 13 2021), <https://tass.com/russia/1256193>.

200 President of Russia, “Meeting of the Valdai Discussion Club” (October 22, 2020). <http://en.kremlin.ru/events/president/news/64261>. See also: President of Russia, “Vladimir Putin’s annual news conference” (December 19, 2019). <http://en.kremlin.ru/events/president/news/62366>.

201 Sergey Lavrov, “Remarks and answers to media questions at the Primakov Readings International Forum” (June 30, 2017). See also: President of Russia, “Vladimir Putin’s annual news conference” (December 16, 2016), <http://en.kremlin.ru/events/president/news/53573>.

202 Ivan Timofeev, “Decline of the West? Pros and Cons,” Russian International Affairs Council (November 4, 2021). <https://russiancouncil.ru/en/analytics-and-comments/analytics/decline-of-the-west-pros-and-cons/>.

203 Andrey Bezrukov, et al., *Mezhdunarodnye ugrozy 2020: Kazhdyi – za sebya* [International threats 2020: everyone for themselves: report], MGIMO University (December 2019) [in Russian]. <http://eurasian-strategies.ru/media/insights/prognoz-mezhdunarodnye-ugrozy-2020/>.



the authors of an annual publication issued by the Moscow State Institute of International Relations (MGIMO) on international threats wrote: “The reassembly of the world began: the physical and mental boundaries of the possible have moved, a new balance of power has become obvious. ...the military technological advantage of the West is lost, its economic leadership is ephemeral against the background of the inevitable rise of Asia.”<sup>204</sup>

From this perspective, at the beginning of 2022, the conditions were ripe for confronting the West as its global position had become increasingly weaker while Russia was regaining its strategic initiative. The West could no longer shape global and regional orders as before and could not restrain Russia through imposing its own interpretation of values, rules, and norms. Even though the West would oppose Russia, the Russian observers’ assessment was that its resistance would ultimately fade—ultimately with the West backing down to a Russia that assertively defends its interests. In the eyes of Russia’s observers, the Western global influence was weakening as well as its ability to collectively confront Russia. While on the surface the West was resolved to confront Russia, several trends indicated that such resolve would evaporate over the next decade.

Russian experts highlighted several structural challenges faced by the United States. In their view, these were likely to undermine U.S. influence of the European security order and therefore Western resolve to confront Russia. The constant theme in Russian writings over the last five years has been that growing internal polarization within the United States undermined domestic unity and the United States’s ability to formulate a long-term vision for its foreign policy. The United States was on the verge of a new crisis, with its society becoming more and more dissatisfied and divided, its elites more confused, and its relations with the rest of the world more chaotic. While the situation might have looked stable, problems were gradually

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204 Andrey Bezrukov, et al., *Mezhdunarodnyye ugrozy 2022: Perekhvat initsiativy* [International threats 2022: Seizure of the Initiative], MGIMO University (January 2022) [in Russian]. <http://eurasian-strategies.ru/media/insights/prognoz-mezhdunarodnye-ugrozy-2022/>. For similar themes, see also the annual reports from previous years, and the 2019 report of the Russian Foreign Ministry’s Diplomatic Academy, *Global Challenges 2019: Update — politics, economy and development*, Russian Foreign Ministry’s Diplomatic Academy. <https://www.dipacademy.ru/about/press/announcements/polozhenie-del-v-mire-update-politika-ekonomika-razvitiie/>, accessed October 15, 2019; “Atlantic hegemony dying: Era of Western global intervention fading away, says report,” TASS (October 15, 2019), <https://tass.com/world/1083321>.

accumulating that could lead to serious consequences.<sup>205</sup> In Russian expert assessments, “Trumpism” in Washington would not recede and protest potential would continue to accumulate, a combination within the United States that guaranteed “a fever in domestic politics for the next decade.”<sup>206</sup> Russian observers also argued that calls for restraint in foreign policy—from both left and right—were becoming increasingly visible. Even if the United States formulated a more or less coherent foreign policy, it could fall victim to internal political struggles.<sup>207</sup> Russian political leaders, including Putin, also perceived an asymmetry of stake between Russia and the United States in defending specific interests. Ukraine was the notable example. In Putin’s words, for Russia it was an issue of “vital importance” with himself and top officials who were “personally involved,” while the United States “dealt with Ukraine only superficially.”<sup>208</sup>

For Russian experts, another factor that would negatively affect U.S. leadership’s ability to confront Russia was the U.S. realization of its resource constraints and its decision to put greater priority on competition with China. In their view, open conflict with Russia would undermine U.S. ability to confront China. In the context of growing assertiveness and China’s increasing power, the rational choice of the United States would be to reach agreement with Russia; the sooner the United States realized it, these Russian experts felt, the better for U.S. interests.<sup>209</sup> This is one reason why Russian officials, including Putin in recent years, flirted with an idea of having “a balancing influence in relations between the United States and China” and played on Western fears of the China-Russia

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205 Andrey Sushentsov, et al., *Mezhdunarodnyye ugrozy 2018* [International threats 2018], MGIMO University (January 2018) [in Russian], <http://eurasian-strategies.ru/media/insights/international-risks-2018/>; Andrey Sushentsov, et al., *Mezhdunarodnyye ugrozy 2019: Geopoliticheskoye uskoreniye* [International threats 2019: Geopolitical acceleration], MGIMO University (January 2019) [in Russian], <http://eurasian-strategies.ru/media/insights/prognoz-mezhdunarodnye-ugrozy-2019/>; Andrey Sushentsov, et al., *Mezhdunarodnyye ugrozy 2021: Geopolitika posle pandemii* [International threats 2021: Geopolitics after the pandemic], MGIMO University (January 2021) [in Russian], <http://eurasian-strategies.ru/media/insights/prognoz-mezhdunarodnye-ugrozy-2021/>.

206 Andrey Bezrukov, et al., *International threats 2022*. See also: Andrey Bezrukov, et al., *International threats 2020*.

207 Ibid.

208 President of Russia, “Remarks at St Petersburg International Economic Forum” (May 23, 2014). <http://en.kremlin.ru/events/president/news/21080>.

209 Andrey Bezrukov, et al., *International threats 2022*. See also: Andrey Bezrukov, et al., *International threats 2020*.

alliance.<sup>210</sup> Confrontation between the United States and China would itself put Russia in relatively better position, as Putin cited the Chinese proverb “When tigers fight in the valley, the smart monkey sits aside and waits to see who wins.”<sup>211</sup>

Furthermore, the declining U.S. ability to shape the European security order was accompanied by the loosening of Western solidarity and internal cohesion. Polarization in Europe was similarly increasing with the rise of anti-establishment and populist parties and the “re-ideologization” of political debates within European Union (EU) and NATO member states. The crisis of supranational structures and integration associations such as the EU would also remain “a sustainable trend.”<sup>212</sup> For Russian analysts, the number of European countries that violated solidarity for the sake of the freedom to maneuver and strengthening their own relative position is likely to grow, leading to further internal contradictions.<sup>213</sup> In their view, the fault lines in the Western community were exposed by Brexit, the presidency of Donald Trump, and the social and political contradictions accompanying the COVID-19 pandemic. More “wrinkles, tensions, and clashes” and “centripetal tendencies” in transatlantic relations were likely to arise because of structural divergencies in economic interests between the United States and its European allies.<sup>214</sup> Seeking strategic autonomy, the EU would also be unlikely to support the United States on every count and would prefer to “get rid of its security dependence on Washington and its caprices in this sphere” and “formulate its own approach towards security issues.”<sup>215</sup>

Before Russia’s 2022 invasion against Ukraine, Russian analysts also questioned the sustainability of Western unity against Russia. For example,

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210 Sergey Lavrov, “Russia and the post-COVID World.” See also: President of Russia, “Meeting of the Valdai Discussion Club” (October 22, 2020).

211 President of Russia, “Speech at the plenary session of the St Petersburg International Economic Forum” (June 7, 2019). <http://en.kremlin.ru/events/president/news/60707>

212 Andrey Sushentsov, et al., *International threats 2019*.

213 Andrey Bezrukov, et al., *International threats 2020*.

214 Sergey Lavrov, “Russia and the post-COVID World;” “Global Challenges 2019: Update — politics, economy and development.”

215 Sergey Lavrov, “Remarks and answers to questions at the Primakov Readings International Forum” (May 30, 2018). [https://www.mid.ru/ru/foreign\\_policy/news/-/asset\\_publisher/cKNonkJE02Bw/content/id/3239504?p\\_p\\_id=101\\_INSTANCE\\_cKNonkJE02Bw&\\_101\\_INSTANCE\\_cKNonkJE02Bw\\_languageId=en\\_GB](https://www.mid.ru/ru/foreign_policy/news/-/asset_publisher/cKNonkJE02Bw/content/id/3239504?p_p_id=101_INSTANCE_cKNonkJE02Bw&_101_INSTANCE_cKNonkJE02Bw_languageId=en_GB).

MGIMO experts believed in 2018 that if Russia and its Eurasian partners prove to be an attractive market for industrial exports from the EU, Western European capitals would find a way to facilitate stronger economic ties.<sup>216</sup> The 2020 report by the same authors went even farther by claiming that “[t]he monolithic anti-Russian West, which we talked about five years ago, is no longer there.”<sup>217</sup> The only barriers to restoring a better European relationship with Russia were “junior NATO allies” that categorically objected to any agreements with Russia. The hope was that with further erosion of European unity and increasing independence of the European security policy from the United States, European voices that seek pragmatic cooperation with Russia would prevail.<sup>218</sup> Similar thinking was also reflected by Putin:

...Ultimately we will reach the bottom in our relations [with the West] and will understand that we have to go up, to push off from that bottom, go up, take a lungful of fresh air and with a clear head start thinking how to proceed...I certainly believe that working with Russia is important in itself, and this includes economic cooperation, at least bearing in mind that we play a key role in the global energy market; cooperation in the field of nonproliferation and global security also matters, among other things...<sup>219</sup>

## **Impact of the 2022 War Against Ukraine**

The invasion against Ukraine demonstrated Russia’s failure in shaping conditions in peacetime for wartime success against Ukraine. One explanation for this failure is that Russia’s choice to wage a surprise shock and awe campaign meant there was no sustained phase when it shaped its strategy preceding the invasion. It likely regarded such extensive shaping as unnecessary. Based on extensive surveys made by FSB in Ukraine before the invasion, the expectation was that Russia would face an apathetic

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216 Andrey Sushentsov, et al., *International threats 2018*.

217 Andrey Bezrukov, et al., *International threats 2020*.

218 Ibid; Andrey Bezrukov, et al., *International threats 2022*.

219 President of Russia, “Vladimir Putin’s annual news conference” (December 20, 2018).

Ukrainian society that deeply distrusted its political leaders, was focused on problems in the economy, and saw direct war with Russia as unlikely.<sup>220</sup>

By underestimating Ukrainian resistance, Russia also underestimated the extent of Western military aid to Ukraine and the severity of economic sanctions that would be imposed on Russia. This again puts into question the effectiveness of Russia's campaign to undermine NATO's cohesion and will to confront Russia. The West rejected Putin's propaganda about "historical unity between Russians and Ukrainians"<sup>221</sup> and Russia's demands for a new security architecture in Europe.<sup>222</sup> European NATO allies did not succumb to attempts of energy blackmail when Russia's withheld its gas deliveries. Instead, they started the process of decoupling from relying on Russia's supplies.<sup>223</sup> Russia's espionage capabilities in Europe were significantly reduced with the expulsion of over 400 suspected Russian intelligence officers and concerted efforts to disrupt Russian intelligence networks.<sup>224</sup> Contrary to Russia's expectations, its invasion of Ukraine strengthened transatlantic unity, leading to a radical shift in the approach to Russia of countries such as Germany that for years were reluctant to alienate Russia.<sup>225</sup> Russia's actions also triggered further NATO enlargement with the decision of Sweden and Finland to join the Alliance. Also, the

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220 Zabrotskyi et al., *Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022*, RUSI (November 2022), pp. 7-8. <https://rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-conventional-warfighting-russias-invasion-ukraine-february-july-2022>.

221 Vladimir Putin, "On the Historical Unity of Russians and Ukrainians" (July 12, 2021). <http://en.kremlin.ru/events/president/news/page/93>.

222 The Ministry of Foreign Affairs of the Russian Federation, "Agreement on measures to ensure the security of The Russian Federation and member States of the North Atlantic Treaty Organization. Draft" (December 17, 2021), [https://mid.ru/ru/foreign\\_policy/rso/nato/1790803/?lang=en](https://mid.ru/ru/foreign_policy/rso/nato/1790803/?lang=en); The Ministry of Foreign Affairs of the Russian Federation, "Treaty between The United States of America and the Russian Federation on security guarantees. Draft" (December 17, 2021), [https://mid.ru/ru/foreign\\_policy/rso/nato/1790818/?lang=en](https://mid.ru/ru/foreign_policy/rso/nato/1790818/?lang=en).

223 Szymon Kardá, "Conscious uncoupling: Europeans' Russian gas challenge in 2023," ECFR (February 13, 2023). <https://ecfr.eu/article/conscious-uncoupling-europeans-russian-gas-challenge-in-2023/>.

224 Dan Sabbagh, "Half of Russian spies in Europe expelled since Ukraine invasion, says MI6 chief," *The Guardian* (July 21, 2022). <https://www.theguardian.com/uk-news/2022/jul/21/half-of-russian-spies-in-europe-expelled-since-ukraine-invasion-says-mi6-chief>.

225 Emily Holland, "Permanent Rupture: The European-Russian Energy Relationship Has Ended with Nord Stream," *War on the Rocks* (October 3, 2022). <https://warontherocks.com/2022/10/permanent-rupture-the-european-russian-energy-relationship-has-ended-with-nord-stream/>.

United States demonstrated its ability to lead Europeans during the conflict, undermining Russia's hopes for American disengagement.<sup>226</sup>

What is striking, however, is that despite all these setbacks, Russian leadership's narrative about the prevailing trends in European security environment remained largely the same as before February 2022. According to Putin, the events associated with the "special military operation" only accelerated the "tectonic," "revolutionary," "painful," and "inevitable" shifts in the global order that would be taking place "regardless of Russia's actions towards Ukraine."<sup>227</sup> For him, the "old unipolar hegemony is inexorably collapsing" and a "future world arrangement is taking shape."<sup>228</sup> Similarly, according to Lavrov, "the lineup of forces on the global stage is not changing in its [Western] favor." The U.S.-led collective Western response to Russia's actions in Ukraine reflected attempts to slow down as much as possible the "objective, historically substantiated and inevitable" processes which Russia seeks to accelerate with its actions.<sup>229</sup> The only new accent in Russia's official statements was that the establishment of multipolarity "will take a historically long time," suggesting corrections to earlier statements that this was already a reality.<sup>230</sup>

Justifying the decision to invade Ukraine in net assessment terms, Putin claimed that by failing to do so in 2022, Russia would be in a worse position in a few years. In his view, with continued Ukraine's attempts to fortify itself and with increasing support from NATO, similar operations in future would be more dangerous and more difficult for Russia and would entail even more losses.<sup>231</sup> All short-term and mid-term losses, including economic losses associated with the special military operation, were worth paying given the "enormous acquisitions" of strengthening Russia's

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226 Dmitry Trenin, "Special military operation in Ukraine as a turning point in modern Russia's foreign policy" [*Spetsial'naya voyennaya operatsiya na Ukraine kak perelomnaya tochka vneshney politiki sovremennoy Rossii*] (November 30, 2022). <https://globalaffairs.ru/articles/perelomnaya-tochka/>.

227 President of Russia, "Remarks at Valdai International Discussion Club meeting" (October 27, 2022). <http://en.kremlin.ru/events/president/news/69695>.

228 Ibid.

229 Sergey Lavrov, "Remarks and answers to questions at the Primakov Readings International Forum" (December 7, 2022). [https://mid.ru/en/foreign\\_policy/news/1842506/](https://mid.ru/en/foreign_policy/news/1842506/).

230 Ibid.

231 President of Russia, "Remarks at Valdai International Discussion Club meeting" (October 27, 2022).

sovereignty across different areas.<sup>232</sup> Also, as in his view, Russia passed the peak of economic difficulties posed by sanctions at the end of 2022—and that Western attempts “to squeeze” Russia were “clearly doomed” and would disproportionately hit the Western economy.<sup>233</sup>

Assessments post-February 2022 also reflected the sense of optimism that sooner or later that pragmatism would prevail and the West would be ready to re-engage in dialogue with Russia on the future European security order. This would be possible by “relying on this part of the population in the European countries and the United States” that has a friendly attitude toward Russia.<sup>234</sup> As could be inferred from Lavrov’s remarks at the Primakov Readings International Forum in December 2022, Russian leadership continued to pay attention to any signs of polarization within Western society, desperately trying to create wedges between Americans and Europeans and within the United States and Europe.<sup>235</sup>

Evaluations made by Russia’s experts post-February 2022 reinforce the assessments made by Russia’s political leaders. For example, according to Alexander Yakovenko, rector of the Diplomatic Academy of the Ministry Foreign Affairs, the crisis of Western dominance in global politics, economics, and finance was among the top dominant trends in contemporary international relations.<sup>236</sup> For Andrey Kortunov, Director General of the Russian International Affairs Council, an acute politico-military crisis can temporarily change the dynamic of international relations but cannot undo objective long-term trends.<sup>237</sup> Even though the next couple of years would be the most difficult for Russia—marking the peak of political, economic, and military pressure on Moscow from a cohesive

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232 Ibid.

233 Ibid.

234 Ibid.

235 Sergey Lavrov, “Remarks and answers to questions at the Primakov Readings International Forum” (December 7, 2022).

236 Alexander Yakovenko, “25 trends in contemporary international relations and world development,” Russian International Affairs Council (September 27, 2022). <https://russiancouncil.ru/en/analytics-and-comments/comments/25-trends-in-contemporary-international-relations-and-world-development/>.

237 Andrey Kortunov, “American Attempts to Preserve Hegemony Will Only Make the Transition to a New World Order Harder for Washington,” Russian International Affairs Council (November 17, 2022). <https://russiancouncil.ru/en/analytics-and-comments/analytics/american-attempts-to-preserve-hegemony-will-only-make-the-transition-to-a-new-world-order-harder-for/>.

West—the ongoing consolidation remains temporary. It will be inevitably followed by another rise of intra-Western contradictions. This shift from centripetal to centrifugal trends in the West is a matter of years and should be expected by the end of the 2020s, creating additional opportunities for Russia.<sup>238</sup>

The perception that long-term trends will turn positive for Russia may have been reinforced by some successes by Russian information confrontation. For example, Russia seemed to succeed in seeding hostile sentiments towards Ukraine in the U.S. domestic political discourse.<sup>239</sup> Public opinion polls conducted at the beginning of 2022 also revealed that roughly one-quarter of Americans believed in conspiracy theories created by Moscow that the United States has been funding biological weapons laboratories in Ukraine, a false claim disseminated by Russia for years.<sup>240</sup>

## **Opportunities and Challenges Over the Next Decade**

How does Russian political and military leadership perceive opportunities and challenges to set the peacetime conditions for success in wartime against NATO over the next decade? Will Russia's ability to do so improve or deteriorate? What are the implications of Russia's perceptions for the Alliance? What can NATO do to ensure that Russia will not miscalculate its collective resolve to act?

To an important extent, the answers to these questions will likely depend on how the Russia's war against Ukraine will end. As observed by Kortunov, should the conflict be resolved on terms favorable to Ukraine—that is, with the Kremlin's forces retreating from Ukraine without achieving its goals—the outcome could serve as a foundation for long-term Western cohesion. Such “Western victory” in supporting Ukraine could solidify American leadership and transatlantic unity and create the resolve to pursue common defense and security objectives. Should, however, Moscow emerge victorious, one

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238 Andrey Kortunov, “A New Western Cohesion and World Order,” Russian International Affairs Council (September 27, 2022). <https://russiancouncil.ru/en/analytics-and-comments/analytics/a-new-western-cohesion-and-world-order/>.

239 Laura Thornton, “Kremlin Talking Points Are Back in the U.S. Debate,” *Foreign Policy* (October 13, 2022); Maura Reynolds, “Fiona Hill: Elon Musk Is Transmitting a Message for Putin,” *Politico* (October 17, 2022), <https://www.politico.com/news/magazine/2022/10/17/fiona-hill-putin-war-00061894>.

240 Taylor Orth and Kathy Frankovic, “Which groups of Americans believe conspiracy theories about Ukraine and Russia?,” *YouGovAmerica* (March 30, 2022). <https://today.yougov.com/topics/politics/articles-reports/2022/03/30/which-groups-believe-conspiracies-ukraine-russia>.



could imagine significant frictions and divisions within the West about “who lost Ukraine” and about whether enough was done to prevent this outcome. The confidence of Russia to contest the West would grow even stronger while the West collectively would face the fallout of a significant defeat.<sup>241</sup> From this perspective, continuing support of Ukraine “as long as it takes” could decrease the risks of Russia’s growing confidence to achieve its objectives vis-à-vis the Alliance.<sup>242</sup>

How Russia sees its opportunities for the future also depends on lessons that it learns from efforts to create conditions in peacetime for success against Ukraine before the 2022 full-scale invasion. One lesson that Russia’s leadership may learn is that to avoid repeating failure in the future, Russia must further invest in its toolkit to destabilize opponents and upgrade its capabilities to meet an environment more contested by the West. This could also involve recalibrating assessment tools to evaluate more accurately the effectiveness of Russian tools given the Western response. In such a scenario, NATO allies should be ready for the intensification of Russia’s destabilization campaign and Moscow’s experimentation with new methods for waging it more effectively.

The other lesson that Russian leadership might take is that even though waging a destabilization campaign is important, Russian leadership should not count on such efforts being successful when designing military operations. They should also not assume that these designs will be successfully translated into tactical or strategic effects on the ground.

With ascribing lesser value to efforts to create conditions in peacetime for success in wartime, Russia could put greater emphasis on the other elements of its approach to conflict—that is, increase its reliance on gaining the decisive advantage in the initial period of warfare through military means and maintaining this advantage through a better ability to manage escalation. If this is the case, whether NATO is cohesive or not might have limited impact on Russia’s decision to go to war against NATO, its military planning, and its conduct of operations. Even though NATO cohesion contributes to deterrence, it does not guarantee that deterrence will not fail. If the Alliance refrains from making any posture changes that

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241 Andrey Kortunov, “A New Western Cohesion and World Order.”

242 NATO Secretary General: “‘We will not back down’ in support for Ukraine,” nato.int (November 29, 2022). [https://www.nato.int/cps/en/natohq/news\\_209491.htm](https://www.nato.int/cps/en/natohq/news_209491.htm).

may be necessary from the military perspective (for the sake of maintaining cohesion), the Alliance's deterrent might be eventually undermined, as well as its ability to prevail in conflict.

Russian official and expert assessments following the February 2022 invasion against Ukraine also suggest that there is not much that the West could do to convince Russia of its long-term cohesion and collective ability to confront Russia's aggression. No matter how internally strong and cohesive the West would be, these would be always perceived by Russia's leaders as something temporary and lacking strong foundations. On the one hand, even if NATO allies demonstrate their unity, Russian officials will believe the general trend will always point at inherent contradictions and gradual decay and disintegration of the "collective West." On the other hand, any serious disagreements within the West caused by internal political changes within NATO member states, economic crisis, or shifts in strategic priorities would only reinforce Russian leadership's preexisting biases. Such an assessment by Russian leadership would be similar to prevailing Soviet leadership perceptions during the Cold War about the correlation of forces in the international stage shifting in the socialist favor, and "the contradictions inherent in world capitalism."<sup>243</sup>

This leads to a conclusion that even though sustaining NATO unity over a long period of time would be indispensable for the collective ability to effectively confront Russia, it might be insufficient to affect Russia's leadership convictions about the ultimate collapse of the West and that its actions to accelerate this process would eventually be successful. If this is the case, there is little hope that by consistently demonstrating unity, NATO allies could convince Russia's decisionmakers about the futility of the destabilization campaign and consequently dissuade Russia from competing with the West. Unless the Kremlin's lenses are radically transformed, Russian leadership will continue to believe in Moscow's upper hand in the strategic competition with the West, posing persistent and serious risk of Russia's miscalculation about the collective Western resolve.

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243 Michael J. Deane, "The Soviet Concept of the 'Correlation Of Forces,'" Defense Advanced Research Project Agency, SRI Project 4383 (May 1976). <https://apps.dtic.mil/sti/pdfs/ADA027223.pdf>.

# Assessment of the Ability to Achieve Decisive Advantage in the Initial Period of War

How do Russian political and military leadership assess their ability to achieve a decisive advantage against NATO in the Initial Period of War (IPW)? What quantitative and qualitative progress has Russia made since the 2000s to improve its relative ability to do so? How does President Putin and other Russian political and military officials assess this progress? What relevant lessons about Russia's ability to do so against NATO can be inferred from the initial period of war against Ukraine? What challenges and opportunities do Russian leaders see over the next decade to leverage the IPW to Russia's advantage? To formulate answers to these questions, this chapter draws on quantitative and qualitative assessments of Russia's military capabilities relatively to NATO's capabilities to counter them. It also draws on the analysis of statements made by Russian political decisionmakers and military officials made since the early 2000s.

## Russia's Progress Until 2022

One of the highest priorities for Putin since the beginning of his presidency has been modernizing and upgrading Russia's military might. Over the last two decades, the sense of urgency in making the process was cultivated and reinforced by his personal attention to this effort. Structural changes to Russian armed forces and their evolving exercise routine, equipping them with modern weapons, increasing military spending, and revamping Russia's military-industrial complex were under his "constant control" and "strict supervision."<sup>244</sup> This attention was highlighted by his annual speeches at the expanded meetings of Defense Ministry Board, news conferences, regular meetings with the leadership of the Armed Forces, consultations with representatives of the defense industry and relevant government officials in Sochi since 2013, and round-the-clock

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244 "Interview with Defense Minister of the Russian Federation Sergey Shoigu for Moskovskiy Komsomolets Daily, 22 September 2019," in *Documents Talk: NATO–Russia Relations after the Cold War*, Robert Kupiecki and Marek Menkiszak, eds. (Warsaw, Poland: Polish Institute of International Affairs, 2020), pp. 598-600. <https://www.pism.pl/upload/images/artykuly/b36eaf82-d6e0-44d1-b335-55a2be0bd15d/1621865078970.pdf>.

monitoring of the implementation of the state defense order by the National Defense Control Center.<sup>245</sup>

The process was initially driven by the sense of distress that Russia “found itself defenseless both from the East and the West,” and “showed” itself to be weak in a world in which “the weak get beaten.”<sup>246</sup> Awareness of Russia’s military weaknesses was only deepened by the 2008 war against Georgia. Still, the perception of Russian leadership was that Russia has “everything it needs” to meet challenges faced by its Armed Forces and that “in the whole modern history of Russia” it had never had “such favorable conditions for creating modern and efficient Armed Forces.”<sup>247</sup> As a result of deliberate, focused, and long-term process of military transformation, between 2008 and 2022 Russia improved its relative military position vis-à-vis NATO, including its ability to attempt to achieve a decisive military advantage in the initial stage of potential war with the Alliance. This is because Russia created a more favorable regional military balance vis-à-vis NATO, improved its ability to take advantage of the time-distance gap that favors it over NATO, strengthened its capability to impede NATO reinforcements, and made progress in defending against a potential NATO aerospace campaign.

### ***Progress in Creating a More Favorable Military Balance***

Even though the Alliance enjoyed an overall advantage, Russia’s relative position against the entire Alliance improved in quantitative and qualitative terms between 2008 and 2022. Moscow narrowed the quantitative gap with NATO in several categories of military equipment—its ground forces in particular (Table 1). Moscow also made qualitative progress as it increased the share of “modern” weapons and equipment in its general-purpose forces. This share, according to Russia’s officials, rose to 15% in 2010,<sup>248</sup>

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245 President of Russia, “Defense Ministry Board meeting” (December 24, 2019). <http://en.kremlin.ru/events/president/news/62401>.

246 President of Russia, “Address by President Vladimir Putin” (September 4, 2004). <http://en.kremlin.ru/events/president/transcripts/22589>.

247 President of Russia Dmitry Medvedev, “Speech at an Extended Session of the Defence Ministry Board” (March 17, 2009). <http://en.kremlin.ru/events/president/transcripts/3460>.

248 Excerpts from the speech of Defence Minister Anatoly Serdyukov at the expanded meeting of the Defence Ministry Board (March 18, 2011). <http://en.kremlin.ru/supplement/4847>.

47% at the end of 2015 (in comparison to planned 30%),<sup>249</sup> 58.3% in 2016,<sup>250</sup> 59.5% in 2017,<sup>251</sup> 61.5% in 2018,<sup>252</sup> 68.2% in 2019,<sup>253</sup> and 70.1% in 2020.<sup>254</sup>

What made Russia well positioned to achieve decisive advantage over NATO in the IPW was the military overmatch it possessed on its western and southern borders. Russia not only enjoyed a quantitative and qualitative edge against individual NATO allies such as Poland, the Baltic States, Bulgaria, and Romania, but also against the entire NATO Eastern Flank. Efforts taken collectively by NATO and individually by the United States since 2014 to strengthen regional defense and deterrence, including the establishment of NATO Enhanced Forward Presence (EFP) and more robust U.S. military presence, were insufficient to change this regional equation.<sup>255</sup>

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249 President of Russia, "Expanded meeting of Defence Ministry Board" (December 11, 2015). <http://en.kremlin.ru/events/president/news/50913>.

250 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2016). <http://en.kremlin.ru/events/president/news/53571>.

251 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2017). <http://en.kremlin.ru/events/president/news/56472>.

252 President of Russia, "Defence Ministry Board meeting" (December 18, 2018). <http://en.kremlin.ru/events/president/news/59431>.

253 President of Russia, "Defense Ministry Board meeting" (December 24, 2019).

254 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 21, 2020). <http://en.kremlin.ru/catalog/persons/90/events/64684>.

255 NATO's eastern flank from North to South includes Estonia, Latvia, Lithuania, Poland, Slovakia, Hungary, Romania, and Bulgaria. *Western Military Capability in Northern Europe 2020 Part I: Collective Defence*, Eva Hagström Frisell and Krister Pallin, eds., FOI, FOI-R--5012—SE (February 2021), p. 86; Clint Reach, Edward Geist, Abby Doll, and Joe Cheravitch, "Competing with Russia Militarily Implications of Conventional and Nuclear Conflicts," RAND Perspective, PE-330-A (June 2021), p. 5, <https://www.rand.org/pubs/perspectives/PE330.html>.

**Table 1. The quantitative evolution of Russia and NATO military equipment (based on *IJSS 2009, IJSS 2015, and 2022 Military Balance*)**

Area/Assets		2008			2014			2021		
		NATO Total/ NATO Europe	NATO Eastern Flank <sup>256</sup> / Baltic <sup>257</sup>	Russia Total	NATO Total/ NATO Europe	NATO Eastern Flank/ Baltic	Russia Total	NATO Total/ NATO Europe	NATO Eastern Flank/ Baltic	Russia Total
Active Personnel		4,043,954 /2,519,371 (incl. 79,375 US)	321,827/ 141,145	1,027,000	3,419,760/ 2,054,280 (67,670 US)	287,360/ 121,310	771,000	3,226,310/ 1,904,371 (73,411 US)	340,200/ 153,000 (+4,500US and ~4,700 NATO EFP)	900,000
Reservists		3,414,152/ 2,374,702	647,407/ 255,907	20,000,000	2,424,140/ 1,538,290	436,550/ 44,500	2,000,000	2,108,700/ 1,230,850	113,800/ 35,800	2,000,000
Tanks		20,668/ 12,559+ (909 in store)	2,379 (909 in store)/ 952	23,510 (350 in store)	9,907 (3,561 in store)/ 7,002	1536/ 929	2,800 (17,500 in store)	9,143 (3,450 in store)/ 6,416	1,375/ 800	3,417 (7,000 in store)
Infantry Fighting Vehicles		14,649/ 8,197	2,826/ 1508	15,740+	10,815 (2,000 in store)/ 6,256	2687/ 1838	6,590+ (8,500 in store)	10,319 (2,000 in store)/ 6350	2,639/ 1,685	7,921 (8,500 in store)
Armored Personnel Carriers		55,510/ 25,572	4,959/ 969	10,970+	51,213 (8,000 in store)/ 20,093	2480/ 348	+7,500 (6,000 in store)	28,360 (8,000 in store)/ 17,103	2,057/ 768	+7,272 (6,000 in store)
Artillery		32,432/ 23,533	4,859/ 1,493	26,852+	26,857 (500 in store)/ 19,114	2759/ 1267	5,181+ (20,535 in store)	25,873/ 19,004	2,612/ 1,134	5,899+ (22,485 in store)
Multiple Rocket Launchers (as a subset of heavy artillery)		1591/ 761	225/225	4,108+	2188/ 943	397/ 180	886+ (3,220 in store)	1,455/ 820	391/ 179	1,114 (3,220 in store)
Attack Helicopters		2,029/ 846	124/ 54	646	1,278/ 370	81/ 25	296+	1,366/ 483	71/ 28	407+
Large Surface Combatants (aircraft carriers/cruisers, frigates/destroyers/ corvettes)		320/ 198	21/10	61	291/ 173	14/ 3	83	299/ 163	14/ 3	74
Submarines (SSGNs/ SSNs/SSKs)		134/ 77	6/5	44	139/ 76	5/5	47	119/ 62	1/1	38
Combat Aircraft (FTR/ FGA/ATK)		4,786/ 2,628	383/ 120	1,679+	5,104/ 2,138	261/ 113	1,056	5,104/ 2,068	211/ 94	1,033+
Air Defense Systems	Long-range	595 /112	4/0	1900+/-	630 /126	127/0	598	522 /234	16/0	982
	Short and medium range excl. MAN-PADS	2,645+/- 1,847+	984+/- 769	N/A	1,524/ 821+	204+/- 102+	430/ 36	1,555 /1,098+	431+/- 270+	440/ 236+

256 This includes Latvia, Lithuania, Estonia, Poland, Czechia, Slovakia, Hungary, Bulgaria, and Romania.

257 This includes three Baltic states and Poland.

The most visible qualitative and quantitative capability improvement by Russia over the last two decades was in its long-range precision strike capabilities. During this period, Russia equipped 13 missile brigades with ballistic and cruise variants of Iskander missiles (9M720/SS-26 Stone and 9M728), fielded at least three battalions of the 9M729/SSC-8 Screwdriver ground-launched intermediate-range cruise missiles, deployed the Kalibr family of cruise missiles aboard its navy's surface ships and submarines, and most recently deployed the Kinzhal air-delivered ballistic missile and sea-launched Tsirkon hypersonic vehicle.<sup>258</sup> The emergence of these weapons, many of which were used for the first time operationally in Syria, generated new forms of Russia's military action for Russia. They were perceived by Russian theorists as the further development of the theory and practice of "deep operations" that allowed for "the spatial continuum of military operations with their 'compression' in time."<sup>259</sup> According to the Swedish Research Agency estimates, in 2019 Russia's armed forces had more than 1,350 missiles available for initial stand-off strikes, including 900 missiles against land targets and 450 against sea naval targets.<sup>260</sup> These estimates were significantly lower than estimates made by the Ukrainian government of the Russian missile arsenal before February 2022 (see Table 2). During the conflict Russia also demonstrated the ability to use as land-attack missile systems designed for other roles. This includes S-300 missiles, with a pre-war inventory estimated by the Ukrainian government of 8,000 missiles.

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258 *Russia's Military Modernisation: An Assessment* (London: International Institute of Strategic Studies, 2020), pp. 76, 92.

259 Maj. Gen. V.V. Kruglov (Ret.) and Col. A.S. Shubin, "The Increasing Importance of Preemptive Actions Against the Adversary," *Military Thought* 31, no. 2 (2022), p. 42.

260 *Russian Military Capability in a Ten-Year Perspective – 2019*, Fredrik Westerlund and Susanne Oxenstierna, eds., FOI, FOI-R-4758—SE (December 2019), pp. 36-37.

**Table 2. Russian Conventional Precision Strike Munitions as of 2022**

Russian (NATO) designation	Type	Initial Operational Capability	Estimated Range	Estimated Number	Delivery Vehicles (max. delivery capacity)
<b>Kh-555 (AS-22 Kluge)</b>	Air-launched cruise missile (ALCM)	2012	2,500 km	444	Tu-95MS (6) Tu-160 (12)
<b>Kh-101 (AS-23a Kodlak)</b>	ALCM	2013	4,000 km		Tu-22M3M (4–6) Tu-95M (6–10) Tu-160 (12)
<b>Kinzhal (AS-X-24 Killjoy)</b>	Air-launched ballistic missile (ALBM)	2019	2,000 km (MiG)– 2,900 km (Tu-22M3M)	43	MiG-31BM (1), MiG-31K (1), Tu-22M3M (4), Su-57 (1)
<b>3M14T/K Kali-br-NK/PL (SS-N-30A Sagaris)<sup>261</sup></b>	Sea-launched cruise missile (SLCM)	2015	2,500km	500	Multiple submarine and surface ships (See: Table 3)
<b>3M54 (SS-N-27A Sizzler)</b>	Anti-ship cruise missile (ASCM)	1987	220–660 km	N/A	Severodvinsk (32), Gorshkov (16), Grigorovich (8)
<b>P-800 Oniks (SS-N-26 Strobile)</b>	ASCM	2002	120–600 km	470	Oscar II (24) Severodvinsk (16) Multiple surface ships (4–8)
<b>Kh-32 (AS-4a)</b>	ASCM	2016	600–1,000 km	370	Tu-22M3M (3), possibly Tu-95 (N/A), Su-30SM (1) in future
<b>Kh-35U (AS-20 Kayak)</b>	ASCM and land-attack cruise missile (LACM)	2015	260 km	N/A	Su-34, possibly Su-35S, Tu-95, Su-57
<b>K-300P Bastion (SSC-5 Stooze)</b>	Coastal defense cruise missile	2010	300–450 km	N/A	SSC-5 TELs
<b>3K60 Bal (SSC-6 Sennight)</b>	Coastal defense ballistic missile	2008	120–260 km	N/A	SSC-6 TELs
<b>9K723-M (SS-26 Stone)</b>	Short-range ballistic missile (SRBM)	2015	499km	800	Iskander TELs,
<b>9M729 (SSC-7 Southpaw)</b>	Ground-launched cruise missile (GLCM)	2013	400–500 km	100	Iskander TELs,
<b>9M729 (SSC-8 Screwdriver)</b>	GLCM	2017	2,000–2,600 km	N/A	Modified Iskander launcher TELs (4–5 battalions estimated)
<b>Tochka (SS-21 Scarab)</b>	SRBM	1975	70–120 km	N/A	Tochka TELs (12 remaining)
<b>Total Number</b>				<b>2,727</b>	

Table 2 sources: The table is based on Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation. The Influence of Geography and Conventional Capacity*, RAND Corporation, RR-A1233-8 (2023), Table 3.1, pp. 38-39. [https://www.rand.org/pubs/research\\_reports/RR-A1233-8.html](https://www.rand.org/pubs/research_reports/RR-A1233-8.html). The numbers of Russian missiles reflect the Ukrainian government estimates of Russian missile inventory before February 2022. Oleksii Reznikov, X (formerly Twitter) (January 6, 2023). <https://twitter.com/oleksiireznikov/status/1611449870040109058>.

<sup>261</sup> *Russia's Military Modernisation: An Assessment*, p. 92



According to the Russian Ministry of Defence, the number of delivery vehicles for Russia's long-range cruise missiles grew by 13 times between 2012 and 2020 while the number of land-based, sea-, and air-launched missiles grew by a factor of 37.<sup>262</sup> With these capabilities, Russia expanded its strike options against key military and civilian infrastructure within NATO territory.<sup>263</sup> At the same time, air and missile defense systems to defend NATO ground forces and critical assets against a variety of regional cruise and ballistic missile threats remained limited, especially in Central and Eastern Europe.<sup>264</sup>

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262 TASS, "Number of long-range cruise missile carriers in Russia up 13 times since 2012" (December 22, 2020). <https://tass.com/defense/1238697>.

263 Estonian Foreign Intelligence Service, *International Security and Estonia 2022* (January 2022), p. 10. <https://www.valisluureamet.ee/doc/raport/2022-en.pdf>.

264 Clint Reach, Edward Geist, Abby Doll, and Joe Cheravitch, p. 12.

**Table 3. Russian Vessels in Service Armed with 3M14T/K Kalibr-NK/PL (SS-N-30A) as of 2022**

Project Number and Designation (NATO)	Type	Entered Service	Quantity	Launch Capacity	Total Launch Capacity
<b>885 Yasen (Severodvinsk)</b>	SSGN (nuclear-powered submarine with dedicated launch tubes for guided missiles)	2015	1	32	32
<b>06363 Varshavyanka (Improved-Kilo)</b>	SSK (conventionally-powered attack submarine)	2014-2019	7	24 <sup>265</sup>	168
<b>677 Lada (Petersburg)</b>	SSK	2010	1	?	?
<b>22350 Gorshkov</b>	FFGHM (frigate/with surface-to-surface missile/with hangar/with SAM)	2018-2020	2	16	32
<b>11356 Grigorovich</b>	FFGHM	2016-17	3	8	24
<b>20385 Gremyashchiy</b>	FFGHM		2 (1 in trials)	8	16
<b>20386 Derzkiy (Improved Steregushchiy II)</b>	FFGHM	2020-2021	2	?	?
<b>11661K Gepard II</b>	FSGHM (corvette/with surface-to-surface missile/with hangar/with SAM)	2012	1	?	?
<b>21631 Buyan-M (Sviyazhsk)</b>	FSGM (corvette/with surface-to-surface missile/with SAM))	2014-19	8	8	64
<b>22800 Karakurt (Uragan)</b>	FSG (corvette/with surface-to-surface missile)	2018-19	2	8	16
<b>23550 Ivan Papanin</b>	PSOH (peace support operations or offshore patrol ship/with hangar)	2021-2022	2	?	?
<b>Total</b>			31		~352

Table 3 source: *Russia's Military Modernisation. An Assessment* (London: International Institute of Strategic Studies, 2020), p. 92.

265 Ilya Tsukanov, "Project 636.3 Varshavyanka: Inside Russia's Stealthiest Non-Boomer Sub," Sputnik (April 28, 2023). <https://sputnikglobe.com/20230428/project-6363-varshavyanka-inside-russias-stealthiest-non-boomer-sub-1109917484.html>.

Russia also improved non-kinetic options—cyber, counterspace weapons, and electronic warfare tools—to disorganize potential opponents in the initial stage of conflict.<sup>266</sup> In the cyber realm, over the last decade Russia showed increasing dexterity in applying information-technical measures to target, gain initial access, and maintain persistent, undetected, and long-term access to the critical infrastructure such as governmental and financial institutions, as well as energy, nuclear, water, aviation, and manufacturing facilities across the Alliance.<sup>267</sup> Doing so created options for Russia to cause political, societal, and economic disruption, and disorganize NATO's military capabilities in the initial period of war. In view of Russia's military theorists, "[c]ommunication disruptions, massive computer malfunctions, and other electronic equipment failures"<sup>268</sup> as well as a variety of negative consequences caused by cyber attacks "ranging from blackouts to accidents resulting in physical damage or environmental hazard"<sup>269</sup> could prevent an adversary from waging combat in an organized manner.

Russia demonstrated its increasing capability to create significant societal disruptions through mounting several cyberattacks over the past years: the June 2017 NotPetya ransomware attack, which caused billions of dollars in damages across the world; the SolarWinds attack uncovered in 2020, which compromised several sensitive U.S. governmental and non-governmental networks; the October 2020 attacks on U.S. hospitals and health care infrastructure, which led to disruption in patient care at the time that the U.S. health care systems was already stressed by the pandemic; and the June 2021 attack against the Colonial Pipeline (one of the largest pipelines in the United States), which disrupted critical supplies of gasoline

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266 Clint Reach, Edward Geist, Abby Doll, and Joe Cheravitch, p. 14.

267 *Significant Cyber Incidents Since 2006*, CSIS, [https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-03/230320\\_Significant\\_Cyber\\_Incidents.pdf?VersionId=McZmSH5nT8xfdSAiD\\_F\\_3rE3eZRR98nM](https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-03/230320_Significant_Cyber_Incidents.pdf?VersionId=McZmSH5nT8xfdSAiD_F_3rE3eZRR98nM); Cybersecurity and Infrastructure Security Agency, Russia Cyber Threat Overview and Advisories, <https://www.cisa.gov/russia>.

268 A.V. Serzhantov, A.V. Smolovy, and I.A. Terentyev, "Transformation of the Content of War: Outlining Military Conflicts of The Future," *Military Thought* 31, no. 4 (2022), p. 64.

269 A.S. Ulanov, "Forecast of Trends in the Development of Military Assets and Their Use in Future Wars," *Military Thought* 31, no. 4 (2022), p. 107.

and other refined products throughout the East Coast.<sup>270</sup> All were attributed to Russia cybercrime organizations.

In the context of targeting NATO critical infrastructure, Russia has also developed the capability to target undersea internet cables, the backbone of global communication infrastructure that account for around 95% of transatlantic data traffic.<sup>271</sup> Even though it is unclear if Russia possesses the capability to sever a large number of these cables (rupturing one of them would only cause temporarily disruptions), doing so could cause severe economic disruption, eliminate internet access for targeted populations, or cut off military or government communications in the early stages of a conflict.<sup>272</sup>

Recognizing the critical role of the outer-space and space-based assets in future wars, since the early 2000s Moscow has accelerated its efforts to develop, test, and field an array of nondestructive and destructive counterspace weapons to degrade the space capabilities of the United States and its allies. Russian military theorists concluded that the United States and its allies were vulnerable, given their reliance on space assets and their importance for communications, navigation, reconnaissance, and command and control of military forces, including precision-guided munitions.<sup>273</sup> For Russia military theorists forecasting the future of conflict, “[w]ithout winning air and space superiority, it will be impossible to achieve stable land and sea superiority.”<sup>274</sup> Space was also seen as likely to be one of the places where war starts.<sup>275</sup> Many of the systems developed by Russia

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270 Mike McQuade, “The Untold Story of NotPetya, the Most Devastating Cyberattack in History,” *Wired* (August 22, 2022), <https://www.wired.com/story/notpetya-cyberattack-ukraine-russia-code-crashed-the-world/>; U.S. Clint Reach, et al., *Russia’s Evolution Toward a Unified Strategic Operation...*, p. 117.

271 Mark Scott, “Will Russia attack undersea internet cables next?” *Politico* (September 29, 2022), <https://www.politico.eu/article/everything-you-need-to-know-about-the-threat-to-undersea-internet-cables/> (accessed November 17, 2023); “UK military chief warns of Russian threat to vital undersea cables,” *The Guardian* (January 8, 2022), <https://www.theguardian.com/uk-news/2022/jan/08/uk-military-chief-warns-of-russian-threat-to-vital-undersea-cables> (accessed November 17, 2023).

272 Garrett Hinck, “Evaluating the Russian Threat to Undersea Cables,” *Lawfare* (March 5, 2018), <https://www.lawfareblog.com/evaluating-russian-threat-undersea-cables>; NATO CCDCOE, “Strategic importance of, and dependence on, undersea cables” (November 2019), <https://ccdcoe.org/uploads/2019/11/Undersea-cables-Final-NOV-2019.pdf> (accessed November 17, 2023); Colin Wall and Pierre Morcos, “Invisible and Vital: Undersea Cables and Transatlantic Security,” *CSIS* (June 11, 2021), <https://www.csis.org/analysis/invisible-and-vital-undersea-cables-and-transatlantic-security> (accessed November 17, 2023).

273 Timothy L. Thomas, *Russian Military Thought: Concepts and Elements*, pp. 5-9.

274 A.V. Serzhantov, A.V. Smolovy, and I.A. Terentyev, p. 64.

275 A.S. Ulanov, p. 100.

over the last two decades were the continuation of shelved Soviet legacy systems. They included electronic warfare capabilities such as the Tirada-2 and the Bylina-MM; directed energy weapons to dazzle or blind satellites such as the Kalina system, Peresvet, and Sokol-Eshelon; co-orbital systems such as Kosmos-2542, Kosmos-2543, and the Burevestnik satellites; ground-based direct-ascent ASAT missiles capable of destroying space targets in low Earth orbit such as the S-500, S-550, and the A-235 Nudol that was tested against the satellite in November 2021; air-launched direct-ascent ASAT such as Kontakt/78MR launched from modified MIG-31D; and jamming and cyber capabilities.<sup>276</sup>

Russia also made significant investments in electronic warfare (EW) capabilities to disrupt NATO C4ISR in different domains and across the electromagnetic spectrum. As with cyber and counterspace capabilities, investments in EW systems had their origins in seeking to asymmetrically challenge NATO's technological advantage. Their use should be expected at the outset of any conflict. Russia's EW investments included systems for high-frequency communications jamming such as the Murmansk-BN; very high-frequency R-934UM, a communications jammer; satellite communication jammers, such as the aforementioned Tirada-2S and the Bylina-MM; the R-330Zh Zhitel, which jams GPS systems; or the ground-based airborne radar jamming system, the Divnomorye.<sup>277</sup> Russia's evolving capability to take advantage of EW capabilities was demonstrated in its military operations conducted over the last 20 years, including in Georgia and Syria.

In each of these three areas—cyber, counter-space, and electronic warfare—NATO allies recognized the challenges posed by Russia and have engaged in efforts since 2014 to address them. These efforts involved individual and collective efforts to strengthen resilience and highlighted that attacks in cyberspace and space could trigger Article 5, recognizing that

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276 *Annual Threat Assessment of The U.S. Intelligence Community* (February 6, 2023), p. 16, <https://www.dni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf> (accessed November 17, 2023); Clint Reach et al., *Russia's Evolution Toward a Unified Strategic Operation*..., pp. 95-104.

277 Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation*..., pp. 65 -87; Roger N. McDermott, *Russia's Electronic Warfare Capabilities to 2025: Challenging NATO in the Electromagnetic Spectrum*, ICDS Report (September 2017), [https://icds.ee/wp-content/uploads/2018/ICDS\\_Report\\_Russias\\_Electronic\\_Warfare\\_to\\_2025.pdf](https://icds.ee/wp-content/uploads/2018/ICDS_Report_Russias_Electronic_Warfare_to_2025.pdf); Jan E. Kallberg, Stephen S. Hamilton, and Matthew G. Sherburne, "Electronic Warfare in the Suwalki Gap: Facing the Russian 'Accompli Attack,'" *Joint Force Quarterly* 97 (March 2020), <https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2106498/electronic-warfare-in-the-suwalki-gap-facing-the-russian-accomplish-attack/>.

these domains were those of military operations.<sup>278</sup> Despite NATO efforts, Moscow continues to perceive these three domains as areas of NATO vulnerability. Russia continues to invest in these capabilities to leverage synergies across these areas and those of kinetic capabilities. It also is investing in creating cascading effects and gaining decisive advantage in the IPW. Even though the Alliance has made significant progress since 2014, this was not sufficient to change Russia's calculus. This applies to individual domains but also when seeking to leverage them in multi-domain operations.<sup>279</sup> For example, civilian cybersecurity seemed ill-equipped to confront determined military cyber actors.<sup>280</sup> Despite recognizing the problem, no sufficient progress was made by the United States by 2022 to develop a resilient, cost-effective space architecture. Little progress has been made to integrate the U.S. approach to space with allies. NATO operational planning also was hindered by no discussion on allied response options for space.<sup>281</sup>

### ***Progress in Improving the Ability to Take Advantage of the “Time-Distance” Gap***

Between 2008 and 2022, the Russian military engaged in efforts to take advantage of a perceived “time-distance gap.” It sought to leverage speed and surprise to achieve military objectives vis-à-vis NATO before the Alliance mobilized its full power. As a result of its military reforms, Russia's armed forces focused on creating combat-ready forces held at high readiness. According to Russia's officials, by 2019 a permanently ready professional “core” of Russia's Ground Forces and Airborne Forces consisted of 136 battalion tactical groups (BTGs). This sharply contrasted with pre-2008 data, when only 17% of Russia's ground troops units were standby combat

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278 NATO, “NATO's approach to space” (February 16, 2023), [https://www.nato.int/cps/en/natohq/topics\\_175419.htm](https://www.nato.int/cps/en/natohq/topics_175419.htm); NATO “Cyber defence” (April 4, 2023), [https://www.nato.int/cps/en/natohq/topics\\_78170.htm](https://www.nato.int/cps/en/natohq/topics_78170.htm).

279 James Black and Alice Lynch, “Cyber Threats to NATO from a Multi-Domain Perspective,” in *Cyber Threats and NATO 2030: Horizon Scanning and Analysis*, A. Ertan, K. Floyd, P. Pernik, and T. Stevens, eds., NATO CCDCOE (2022), pp. 136-141, [https://ccdcoe.org/uploads/2020/12/Cyber-Threats-and-NATO-2030\\_Horizon-Scanning-and-Analysis.pdf](https://ccdcoe.org/uploads/2020/12/Cyber-Threats-and-NATO-2030_Horizon-Scanning-and-Analysis.pdf); Franz-Stefan Gady and Alexander Stronell, “Cyber Capabilities and Multi-Domain Operations in Future High-Intensity Warfare in 2030,” in *Cyber Threats and NATO 2030*...

280 Casey Riggs, “Counter-Cyber Reflections for NATO,” Wild Blue Yonder, Air University (April 5, 2021), <https://www.airuniversity.af.edu/Wild-Blue-Yonder/Article-Display/Article/2560071/counter-cyber-reflections-for-nato/>.

281 “Space In Integrated Deterrence Campaigns. Workshop Summary,” CGSR (September 13-14, 2022), <https://cgsr.llnl.gov/content/assets/docs/Workshop-Summary-September-Space-Integrated.pdf>.

ready.<sup>282</sup> Also, even though Russia had limited ability to effectively deploy its troops deep into Western Europe, it possessed significant capability to deploy and stage its ground forces personnel, weapons, and equipment near its western and southwestern borders as a product of robust lines of communication, transport infrastructure, air defense, and favorable geography.<sup>283</sup>

While Russia enjoyed the advantage of the unity of command against NATO—thanks to a small, closed decisionmaking circle around Putin that could make decisions quicker than democratic NATO members individually or collectively—it worked to expand this advantage through changes in its command and control (C2) system. In particular, the National Center for Direction of Defence (NCDD) was activated in 2014 to fulfill the function of a supreme command center. The center brought together key political and military decisionmakers and connected to them through digital systems all levels of military C2 from strategic and strategic-operational to tactical levels.<sup>284</sup>

To test and enhance its ability to wage regional wars with short preparation, Russia regularly conducted large-scale annual strategic-level exercises (ZAPAD, VOSTOK, TSENTR, KAVKAZ) that were unique in their geographical focus, aims, size, and frequency.<sup>285</sup> Their pattern illustrated the nationwide approach to theater-level conflicts with coordinated operations in several strategic directions, moving forces, and equipment over thousands of kilometers to reinforce units in major strategic areas.<sup>286</sup> In addition, Russia has been conducting large-scale combat readiness checks (also known as “snap” exercises) since 2013. Their number rose to around five

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282 Estonian Foreign Intelligence Service, *International Security and Estonia 2022*, pp. 66, 70.

283 Ben Connable et al., “Russia’s Limit of Advance. Analysis of Russian Ground Force Deployment Capabilities and Limitations,” RAND, RR-2563-A, [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR2500/RR2563/RAND\\_RR2563.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR2500/RR2563/RAND_RR2563.pdf); *Western Military Capability in Northern Europe 2020 Part I: Collective Defence*, p. 102.

284 See more: Dave Johnson, “NATO Collective Defense in the Era of Unpeace,” pp. 40-42; *Russia’s Military Modernisation: An Assessment*, p. 38.

285 Dave Johnson, “VOSTOK 2018: Ten years of Russian strategic exercises and warfare preparation,” NATO Review (December 20, 2018), <https://www.nato.int/docu/review/articles/2018/12/20/vostok-2018-ten-years-of-russian-strategic-exercises-and-warfare-preparation/index.html>; Dave Johnson, “ZAPAD 2017 and Euro-Atlantic security,” NATO Review (December 14, 2017), <https://www.nato.int/docu/review/articles/2017/12/14/zapad-2017-and-euro-atlantic-security/index.html>.

286 President of Russia, “Defence Ministry Board meeting” (December 18, 2018); *Western Military Capability in Northern Europe 2020 Part I: Collective Defence*, p. 84.

in 2016, and these have become routine.<sup>287</sup> These exercises played a direct role in supporting Russia's military operations, masking preparations for the annexation of Crimea and the backing of separatists in eastern Ukraine in 2014. They were also instrumental in enabling its 2015 intervention in Syria.<sup>288</sup> In comparison to the largest Russia's exercises which have involved over 100,000 troops, the largest NATO Article 5 exercises in the post-Cold War, 2018's Trident Juncture, involved about 50,000 of military personnel. Preparing for these exercises took several years.<sup>289</sup>

Russia retained a comparative advantage over NATO to quickly generate forces on the Alliance's Eastern Flank. This was achieved despite the measures taken by NATO to increase its ability to arrive with reinforcements. Such measures included decisions made at the 2014 Wales Summit to triple the size of the NATO Response Force (NRF) from 13,000 to 40,000 troops and to create a "spearhead force" (very high-readiness joint task force, or VJTF) of 5,000 troops ready to move within a few days;<sup>290</sup> the 2016 Warsaw Summit decisions about the EFP; and the 2018 Brussels Summit adoption of the NATO readiness initiative (NRI) with Allies committing to have 30 battalions, 30 air squadrons, and 30 naval-combat vessels ready to use in 30 days or sooner by 2020.<sup>291</sup> For example, the assessment made by the Swedish Defense Research Agency (FOI) highlighted that, based on data from 2020, Russia would have better ability than the West to generate forces on quick notice for combat in Central and Eastern Europe. The only exception was NATO's advantage in generating air and naval forces.<sup>292</sup> NATO's ability to reinforce attacked allies would be further hampered by bureaucratic restrictions of moving forces across the Alliance—not only infrastructure gaps but also capability shortfalls in key transportation assets

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287 Johan Norberg, "Training for War Russia's Strategic-level Military Exercises 2009-2017," FOI-R--4627—SE, FOI (October 2018), pp. 41-44.

288 Dave Johnson, "Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds," p. 10.

289 NATO, "Trident Juncture 2018." <https://www.nato.int/cps/en/natohq/157833.htm>.

290 NATO, "NATO Response Force, JFC Naples." <https://jfcnaples.nato.int/page6734927.aspx>.

291 NATO, NATO Readiness Initiative (June 2018). [https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/pdf\\_2018\\_06/20180608\\_1806-NATO-Readiness-Initiative\\_en.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2018_06/20180608_1806-NATO-Readiness-Initiative_en.pdf).

292 *Western Military Capability in Northern Europe 2020 Part I: Collective Defence*, p. 86.



such as heavy equipment transporters and railcars. Despite progress made by the Alliance since 2014, many of these challenges remained.<sup>293</sup>

The dismantlement of the post-Cold War European arms control framework also enhanced Russia's ability to act quickly and with surprise. This included Russia's 2007 "suspension" of compliance with the Treaty on Conventional Forces in Europe (CFE) finalized in March 2015;<sup>294</sup> its violations of the 1992 Open Skies Treaty; its selective implementation of the 2011 Vienna Document;<sup>295</sup> and its violation of the 1987 Intermediate-Range Nuclear Forces Treaty (INF) through the development and deployment of a prohibited ground-launched intermediate-range missile system.

### ***Progress in Improving Capability to Impede NATO Reinforcements***

In a regional war against NATO, Russia's goal would be to win before NATO brings its full power to bear. Between 2008 and 2022, Russia improved not only its capability to act quicker than the Alliance. It also improved its ability to disrupt NATO reinforcements in the IPW. The expansion of long-range precision strike and non-kinetic cyber and counterspace capabilities strengthened Russia's capability to target critical infrastructure supporting reinforcement. These targets included critical C2 nodes and bases as well as logistical bottlenecks such as air and sea ports, storage sites, and assembly areas.<sup>296</sup>

As in Central and Eastern Europe, NATO's integrated air and missile defense capabilities to defend against such attacks deep within the Alliance territory remained limited. Over the last decade, NATO's approach to air and missile defense did not keep pace with Russia's investments in long-range precision strike assets. The Alliance lacked both the capacity and

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293 Clint Reach, Edward Geist, Abby Doll, and Joe Cheravitch, p. 11.

294 Kingston Reif, "Russia Completes CFE Treaty Suspension," Arms Control Today (April 2015), [https://www.armscontrol.org/ACT/2015\\_04/News-Briefs/Russia-Completes-CFE-Treaty-Suspension](https://www.armscontrol.org/ACT/2015_04/News-Briefs/Russia-Completes-CFE-Treaty-Suspension); Ian Anthony, "Death of the CFE Treaty: The need to move arms control back to the centre of security policy," SIPRI (March 12, 2015), <http://www.sipri.org/media/expert-comments/12-mar-2015-death-of-the-cfe-treaty>.

295 U.S. Department of State, Bureau of Arms Control, Verification And Compliance, *2018 Report on Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments* (April 2018). <https://www.state.gov/2018-report-on-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments/#OST3>.

296 *Russian Military Capability in a Ten-Year Perspective – 2019*, p. 62.

capability to meet the growing air threat challenge posed by Russia.<sup>297</sup> Apart from earlier investments of individual allies, NATO recognized the urgency to augment its air and missile defense capabilities only in 2019 in response to Russia's deployment of the intermediate-range ground launched missiles that violated the INF Treaty.<sup>298</sup>

According to Russian and Western analysts, Russia's arsenal of dual-capable stand-off strike systems was insufficient to significantly reduce (through conventional attack) NATO military power across all of Europe and destroy all critical targets in Europe, as Russia's most modern military equipment and weapons, including long-range precision munitions, were neither deployed nor stockpiled in quantities large enough to do so.<sup>299</sup> Still, to degrade or at least disrupt NATO's reinforcements, it might be sufficient for Russia to attack the limited number of key logistical nodes such as airfields, disembarkation ports in Europe, and rail hubs, or key NATO command and control centers. To disrupt reinforcements, Russia could also choose to target critical economic and civilian infrastructure in selected NATO countries to cause societal disruption and undermine the will and ability of these countries to receive, provide, or support the reinforcements. Destroying infrastructure targets requires a significantly lower number of missiles. In a scenario where Russia faces shortage a of conventional munitions, it might also resort to the use of nuclear weapons to achieve desired military and political effects.<sup>300</sup> All of these actions would pose significant operational and strategic dilemmas for the Alliance.

### ***Progress in Improving Capabilities to Repel NATO's Aerospace Attack***

In assessing Russia's ability to wage regional war against NATO, the primary concern of Russian strategists was the U.S. capability to carry out a large-scale conventional aerospace campaign against the Russian

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297 Sidharth Kaushal, Archer Macy, and Alexandra Stickings, "The Future of NATO's Air and Missile Defence, RUSI Occasional Paper" (July 2021), pp. 16-19. <https://static.rusi.org/NATOMissileDefence2021.pdf>.

298 NATO, "Press conference by NATO Secretary General Jens Stoltenberg following the meetings of NATO Defence Ministers" (June 26, 2019). [https://www.nato.int/cps/en/natohq/opinions\\_167072.htm](https://www.nato.int/cps/en/natohq/opinions_167072.htm).

299 *Russian Military Capability in a Ten-Year Perspective – 2019*, pp. 61-67; Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation...*, pp. 40-49.

300 For discussion about Russian planning and targeting requirements, see: Clint Reach, et al., *Russia's Evolution Toward a Unified Strategic Operation: The Influence of Geography and Conventional Capacity*, RAND Corporation, RRA1233-8 (2023), pp. 34-49. [https://www.rand.org/pubs/research\\_reports/RRA1233-8.html](https://www.rand.org/pubs/research_reports/RRA1233-8.html)

heartland. The main assumption behind Russian fears was that the United States would be able to concentrate its precision strike capability and wage a large scale air campaign against Russia.<sup>301</sup>

Table 4. Precision-strike Capacity of U.S. Naval Platforms (2008-2021)

PGM Delivery Platform		Max. Launch Capacity per Platform	Type of PGMs Platforms	2008		2014		2021	
				Plat-forms	Total Launch Capacity	Platforms	Total Launch Capacity	Platforms	Total Launch Capacity
Attack Submarines	Los Angeles, SSN-688	26/38 <sup>302</sup>	TLAM / SM-6	46 (23/23)	1,472	41 (11/30)	1,426	28	1,064
	Seawolf, SSN-21	45 <sup>303</sup>		3	135	3	135	3	135
	Virginia, SSN-774/	37/65		4	148	11	407	19	703
	Ohio (SSBN-726	154		4	616	4	616	4	616
	Total			57	2,371	59	2,584	54	2,517
Large Surface Combatants	Ticonderoga (CG-47)	122		22	2,684	22	2,684	22	2,684
	Arleigh Burke Class Guided Missile Destroyers (DDG-51)	96		52	4,992	62	5,952	68	6,528
	Total			52	7,676	62	8,636	68	9,212
Total				109	10,047	121	11,220	122	11,729

301 See for example: <https://ria.ru/20150404/1056636168.html>.

302 The table assumes that each SSN-688 is equipped with four 21-inch diameter torpedo tubes that can carry up to a total of 26 torpedoes or Tomahawk cruise missiles. In addition, 30 submarines are equipped with additional 12 Vertical Launch System tubes for firing Tomahawk cruise missiles. Ronald O'Rourke, "Navy Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress," Congressional Research Service, RL32418 (December 21, 2022), p. 6. <https://sgp.fas.org/crs/weapons/RL32418.pdf>.

303 *IISS Military Balance 2015*, p. 43. Ronald O'Rourke, "Navy Virginia (SSN-774) Class Attack Submarine Procurement...", p. 6.

- The table lists the maximum number of precision-strike systems that could be hypothetically deployed on each platform. In addition to Tomahawk or SM-6 missiles, U.S. navy vessels are equipped with other types of munitions for other missions. This includes torpedoes, SM-2 air defense missiles, and SM-3 missile defense missiles.
- The table highlights the increase in the U.S. capacity for long-range precision strikes from naval platforms since 2008. Regarding the missile systems that can be deployed on these platforms, according to publicly available data, by FY2021 the United States procured 8,719 Tomahawk cruise missiles [with a range over 1600 kilometers (km)<sup>304</sup>]. More than 2,000 were used in combat.<sup>305</sup> By FY2022, the United States also procured 1,056 SM-6 missiles with range estimated at about 450 km.<sup>306</sup>
- In addition to sea-launched missiles, the United States has increased its arsenal of air-launched and ground-launch long-range systems. By FY2021, the United States procured 4,072 AGM-158A JASSM (with range of around 370 km) and AGM-158B JASSM-ER (with over 900-km range) air-launched cruise missiles, of which 3,329 were delivered to the U.S. Air Force.<sup>307</sup> These missiles could be delivered by various aircraft, including strategic bombers

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304 5,008 of U.S. Tomahawk missiles were procured between FY1998 to FY2021. John R. Hoehn, "Precision-Guided Munitions: Background and Issues for Congress," Congressional Research Service, R45966 (June 11, 2021), pp. 23-24, <https://sgp.fas.org/crs/weapons/R45966.pdf>; "Department of Defense Fiscal Year (FY) 2023 Budget Estimates, Weapons Procurement, Navy" (April 2022), vol. 1-51, p. 1, [https://www.secnv.navy.mil/fmc/fmb/Documents/23pres/WPN\\_Book.pdf](https://www.secnv.navy.mil/fmc/fmb/Documents/23pres/WPN_Book.pdf).

305 U.S. Navy, "Navy Recognizes USS Barry Sailors for 2,000th Tomahawk Launch Milestone" (August 9, 2011), [http://web.archive.org/web/20120924015527/http://www.navy.mil/submit/display.asp?story\\_id=62061](http://web.archive.org/web/20120924015527/http://www.navy.mil/submit/display.asp?story_id=62061); U.S. Department of Defense, "FY 2023 Program Acquisition Costs by Weapon System" (April 2022), pp. 5-19, [https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023\\_Weapons.pdf](https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023_Weapons.pdf).

306 Department of Defense, "Fiscal Year (FY) 2023 Budget Estimates, Weapons Procurement, Navy" (April 2022), vol. 1 – 117; Sydney J. Freedberg Jr., "Army Picks Tomahawk & SM-6 For Mid-Range Missiles," *Breaking Defense* (November 6, 2020), <https://breakingdefense.com/2020/11/army-picks-tomahawk-sm-6-for-mid-range-missiles/>.

307 John R. Hoehn, pp. 32-33; U.S. Air Force, *Joint Air To Surface Standoff Missile (JASSM) Selected Acquisition Report (SAR)* (December 2021), p. 5, [https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Selected\\_Acquisition\\_Reports/FY\\_2021\\_SARS/22-F-0762\\_JASSM\\_ER\\_SAR\\_2021.pdf](https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Selected_Acquisition_Reports/FY_2021_SARS/22-F-0762_JASSM_ER_SAR_2021.pdf).

(B-52<sup>308</sup>, B-1B<sup>309</sup>, B-2<sup>310</sup>), fighter aircraft (F-15E<sup>311</sup>, F/A-18 E/F, F-16 C/D Block 40/50, F-35), and even transport aircraft (C-17/C-130<sup>312</sup>). By FY2022, the United States also procured 116 ground-launched Precision Strike Missiles (PrSMs) with a range of up to 650 km.<sup>313</sup>

- While the overall U.S. capacity and number of missiles are impressive, only a portion of U.S. long-range precision strike platforms are allocated to the European theater. For example, as a part of the U.S. “pivot to Asia,” in June 2012 the then-U.S. Secretary of Defense Leon Panetta announced the shift of the proportion of U.S. naval forces in the Pacific and Atlantic to 60%–40% by 2020. This meant reassigning to the Pacific region six aircraft carriers and most battle cruisers, destroyers, littoral combat ships, and submarines.<sup>314</sup> Like the Navy, the Air Force allocated 60% of its overseas forces to the Asia-Pacific, including tactical aircraft and bomber forces.<sup>315</sup> As stated by then-Secretary of Defense Jim Mattis at the 2017 IISS Shangri-La Dialogue, “currently 60% of all U.S. Navy ships, 55% of Army forces, about two-thirds of the fleet Marine forces are assigned to the U.S. Pacific Command area of responsibility. Soon, 60% of our

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308 Christopher Ball, “B-52 releases JASSM from internal bay: Success marks another ‘first-ever’ for AFTC,” Air Force Global Strike Command (August 12, 2016). <https://www.afgsc.af.mil/News/Article-Display/Article/915841/b-52-releases-jassm-from-internal-bay-success-marks-another-first-ever-for-aftc/>.

309 Joseph Trevithick, “This Is Our First Look At A B-1 Bomber Carrying A Stealthy Cruise Missile Externally,” The War Zone (November 24, 2020). <https://www.thedrive.com/the-war-zone/37828/this-is-our-first-look-at-a-b-1-bomber-carrying-a-stealthy-cruise-missile-externally>.

310 Northrop Grumman, “Northrop Grumman Continues B-2 Spirit Modernization” (August 25, 2022). <https://news.northropgrumman.com/news/features/northrop-grumman-continues-b-2-spirit-modernization>.

311 Thomas Newdick, “Five JASSM Stealth Missiles Have Been Loaded On An F-15E Strike Eagle For The First Time,” The Warzone (May 11, 2021). <https://www.thedrive.com/the-war-zone/40559/five-jassm-stealth-missiles-have-been-loaded-on-an-f-15e-strike-eagle-for-the-first-time>.

312 Jan Tegler, “Air Force to Launch Munitions from C-17s,” National Defense (October 18, 2021). <https://www.nationaldefensemagazine.org/articles/2021/10/18/air-force-to-launch-munitions-from-c-17s>.

313 U.S. Department of Defense, “FY 2023 Program Acquisition Costs by Weapon System,” pp. 5-15.

314 Remarks by Secretary of Defense Leon E. Panetta, Shangri-La Security Dialogue, “Pivotal concerns,” *The Economist* (May 9, 2013). <http://www.economist.com/news/asia/21577369-call-it-pivot-or-rebalancing-americas-pacific-policy-looks-little-wobbly-pivotal-concerns>.

315 A. Carter, “The Future of the Rebalance: Enabling Security in the Vital & Dynamic Asia-Pacific,” as delivered at USS Carl Vinson, San Diego, California (September 29, 2016). <https://www.defense.gov/Newsroom/Speeches/Speech/Article/959937/remarks-on-the-future-of-the-rebalance-enabling-security-in-the-vital-dynamic-a/>.

overseas tactical aviation assets will also be assigned to this theater.”<sup>316</sup> Patrick M. Shanahan, then the Acting Secretary of Defense, observed in June 2019 that the U.S. Indo-Pacific Command “has four times the assigned forces as any other geographical combatant command.”<sup>317</sup>

- In contrast to the United States, the NATO allies’ arsenal of missiles with a range of over 300 km remain limited. Capabilities of NATO allies included JASSM and JASSM-ER procured by Poland and Finland; air-launched SCALP EG missiles (over 400 km range) possessed by France, Greece, Italy, and the UK; Taurus Kept 350 missile possessed by Germany and Spain (with range over 500km);<sup>318</sup> SCALP Naval (with range over 1,000 km) possessed by France;<sup>319</sup> and a limited number of UK Tomahawk cruise missiles.<sup>320</sup>

To improve its ability to repel an aerospace attack, over the last decade Russia has made significant investments in improving and modernizing its integrated air and missile defense, including long-range, surface-to-air missile (SAM) systems. The total number of the most capable Russian air defense system, the S-400 (RS-SA-21 Growler), expanded from the first two battalions deployed in 2009 to seven regimental sets (14 battalions) deployed in 2014 and then to 28 regimental sets (56 battalion sets) in 2021. This amounted to 448 S-400 launchers. In addition, at the end of 2021, Russia maintained about 534 launchers of different types of S-300 missile defense systems, including six launchers of the S-350 system.<sup>321</sup> Russia’s upgrade was impressive despite shortfalls such as delays in

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316 U.S. Department of Defense, “Remarks by Secretary Mattis at Shangri-La Dialogue” (June 3, 2017). <https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/1201780/remarks-by-secretary-mattis-at-shangri-la-dialogue/>.

317 “Acting Secretary Shanahan’s Remarks at the IISS Shangri-La Dialogue 2019” (June 1, 2019). <https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/1871584/acting-secretary-shanahans-remarks-at-the-iiss-shangri-la-dialogue-2019/>.

318 TAURUS KEPD 350E, MBDA (undated). <https://www.mbda-systems.com/product/taurus-kepd-350/>.

319 CSIS Missile Defense Project, “APACHE AP/ SCALP EG/ Storm Shadow/ SCALP Naval/ Black Shaheen” (July 28, 2021). <https://missilethreat.csis.org/missile/apache-ap/>.

320 Richard Scott, “UK set to upgrade Tomahawk inventory” (April 6, 2022). <https://www.janes.com/defence-news/news-detail/uk-set-to-upgrade-tomahawk-inventory>.

321 See: *IISS Military Balance 2010, 2015, and 2022*.

arming S-400 systems with the most capable missile 40N6, with a reported maximum engagement range of 400 km. As of 2020, the main missiles for S-400 were variants of the 48N6 with a maximum range of 250 km.<sup>322</sup>

Significant portions of Russia's air defense assets were deployed in the western part of Russia. According to publicly available estimates, in early 2020, 12 S-400, four S-300PM, and five S-300PS SAM battalions were deployed in the Western Military District. Six battalions of the S-400s and two S-300PS battalions were deployed in the Kaliningrad Oblast.<sup>323</sup> In the Southern Military District, Russia deployed an estimated seven S-400, two S-300PS, and two S-300PM SAM battalions.<sup>324</sup>

Despite progress made by 2022, Russian and Western military analysts estimated that even though Russia had capabilities to "mitigate" effects of an aerospace attack against Russian territory, Russia's defensive and offensive Aerospace Forces capabilities and capacities were insufficient for denying such an attack. The skepticism about the effectiveness of repelling an aerospace attack was mainly driven by perceived flaws in early warning, defensive capabilities, insufficient role of strike capabilities, and C2 architecture. As a result, it was still perceived as one of Russia's potential strategic-operational vulnerabilities. Russian military analysts asserted in 2017 that "in the aerospace sphere, the quantitative-qualitative correlation of forces" was not in Russia's favor. Given the unfavorable correlation of forces, even if the most significant effort of the Russian military to disrupt and repel an aerospace attack achieves satisfactory results, the mission of "conquering aerospace dominance" and "strategic initiative" was beyond the reach of Russian capacity. According to another assessment of a Russian analyst, against the massive "U.S. Prompt Global Strike" capabilities, Russia could deploy only "parochial and systemically unconnected activities, executed by functionally disjointed organizational structures subordinated to different command authorities."<sup>325</sup> Given this,

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322 *IISS Military Balance 2020*, p. 137.

323 Konrad Muzyka, "Russian Forces in the Western Military District," CNA (December 2020), pp. 39, 50. [https://www.cna.org/archive/CNA\\_Files/pdf/russian-forces-in-the-western-military-district.pdf](https://www.cna.org/archive/CNA_Files/pdf/russian-forces-in-the-western-military-district.pdf).

324 Konrad Muzyka, "Russian Forces in the Southern Military District," CNA (August 2021), p. 36. <https://www.cna.org/reports/2021/08/russian-forces-in-southern-military-district-rev>.

325 Dmitry (Dima) Adamsky, *Moscow's Aerospace Theory of Victory: Western Assumptions and Russian Reality*, CNA (February 2021), pp. 17-20. <https://www.cna.org/reports/2021/03/IOP-2021-U-029278-Final.pdf>.

Russia would have a very strong incentive to terminate a conflict with NATO before the Alliance engages in an air strike campaign against Russian territory.

## **Assessments by Russian Leadership**

Russian progress caught the attention of Western military analysts. Many assessments of the NATO-Russia military balance published before 2022 judged that, despite existing shortfalls, Russia was well positioned to win in a short conflict against NATO.<sup>326</sup> Even the 2018 report by the U.S. National Defense Strategy Commission assessed that the United States could lose in a regional war with Russia.<sup>327</sup>

As its military modernization progressed and initial aspirations gradually transformed into reality, political leadership in Moscow became increasingly confident about Russia's relative military power vis-à-vis NATO. This became increasingly apparent since 2018 and culminated in assessments made by Russia's political and military leaders before it launched a full-scale invasion against Ukraine in 2022. The evolution of the assessment of Russia's relative military power versus NATO is visible in the statements of Russian political and military leadership made over the last decade.

*"We still have much work to do to bring the armed forces' structure, arms, and combat potential into line with modern demands...The task remains as before: modern arms and equipment must account for at least 70% of total supplies in the armed forces by 2020."*

**Dmitry Medvedev, 2011<sup>328</sup>**

*"...military power and ability to respond to threats must be such that no one else in the world is tempted to test them...development plans for the armed*

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326 See, for example: *Western Military Capability in Northern Europe 2020 Part I: Collective Defence*, Clint Reach, Edward Geist, Abby Doll, and Joe Cheravitch.

327 *Providing for the Common Defense: the Assessment and Recommendations of the National Defense Strategy Commission* (2018).

328 President of Russia, "Expanded meeting of the Defence Ministry Board" (March 18, 2011). <http://en.kremlin.ru/events/president/news/10677>.



*forces are both large-scale and impressive... people will realize the full sense of this impressiveness once all of our plans have been carried out.*"<sup>329</sup>

**Vladimir Putin, 2012**

*"Some of our 'partners' or competitors, you could say, are already saying now that our armed forces are an effective, modern, and high-tech force. It is good of course to hear this kind of assessment, but we base ourselves on reality, and this means testing the reality in practice through exercises, mastering the modern technology delivered to the troops, training personnel and raising discipline, which is absolutely essential for the armed forces.*"<sup>330</sup>

**Vladimir Putin, 2014**

*"...we have done a great deal of work to bring the Armed Forces to a new level. The progress and achieved result is certainly positive, it is obvious. Our goal is to continue this forward movement.*"<sup>331</sup>

**Vladimir Putin, 2015**

*"...we are satisfied with the current progress. Everything is going according to plan.*"<sup>332</sup>

**Vladimir Putin, 2016**

*"Today, the Russian Army is upgraded, mobile, compact, and efficient. We do not engage in saber-rattling and have no intention of fighting anyone. At the same time, we do not advise anyone to test our defense potential.*"<sup>333</sup>

**Vladimir Putin, 2017**

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329 President of Russia, "Expanded meeting of the Defence Ministry Board" (March 20, 2012). <http://en.kremlin.ru/events/president/news/14808>.

330 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 19, 2014). <http://en.kremlin.ru/events/president/news/47257>.

331 President of Russia, "Expanded meeting of Defence Ministry Board" (December 11, 2015).

332 President of Russia, "Vladimir Putin's annual news conference" (December 16, 2016). <http://en.kremlin.ru/events/president/news/53573>.

333 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2017).

*"In the coming period, it is important to consolidate the results to date. Of course, it is necessary to analyze and take into account international military and political developments."*<sup>334</sup>

**Vladimir Putin, 2018**

*"...despite all the turbulent technological changes in the world, our Armed Forces must be equipped with the most up-to-date technology. We have actually achieved this, which is a rare occurrence for both Russia and the rest of the world in modern history: we have gone a step ahead of other leading military powers, and we must make every effort to maintain this level in the future in the most important areas of development."*

**Vladimir Putin, 2019** <sup>335</sup>

*"...we are objectively assessing our potentialities: our intellectual, territorial, economic, and military potential. I am referring to our current options, our overall potential. Consolidating this country and looking at what is happening in the world, in other countries I would like to tell those who are still waiting for Russia's strength to gradually wane, the only thing we are worried about is catching a cold at your funeral."*<sup>336</sup>

**Vladimir Putin, 2020**

*"... I would like to emphasize that our Armed Forces have become one of the most advanced and technologically developed armies of the world...."*<sup>337</sup>

**Vladimir Putin, 2020**

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334 President of Russia, "Defence Ministry Board meeting" (December 18, 2018).

335 President of Russia, "Meeting of Russian Federation Security Council" (November 22, 2019). <http://en.kremlin.ru/events/president/news/62096>.

336 President of Russia, "Meeting of the Valdai Discussion Club" (October 22, 2020). <http://en.kremlin.ru/events/president/news/64261>.

337 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 21, 2020).

*"The modern Armed Forces of the Russian Federation are capable of neutralizing any threats to the security of the state and protecting the national interests of Russia and its allies."<sup>338</sup>*

**Valery Gerasimov, 2020**

*"I command the second most powerful Army in the world..."<sup>339</sup>*

**Valery Gerasimov, 2022**

*"It became clear back then that a clash with these forces [NATO capabilities], including in Ukraine, was inevitable, the only question was when... But since it is inevitable, better do it today than tomorrow. I think that everyone in this audience understands perfectly well what I am talking about, including the state of our Armed Forces and the availability of advanced types of weapons and other equipment that we have but other countries do not. All of the above gives us a certain margin of safety."*

**Vladimir Putin, 2022<sup>340</sup>**

While expressing growing confidence in Russia's "combat capability" and "defense capability," Russian leaders pointed out capabilities and activities viewed as instrumental for Russia's success in the IPW, including "new, modern, highly effective high-precision weapons" such as Kalibr<sup>341</sup> and hypersonic weapons that were tested in military operations; the constant readiness of troops and their increasing combat experience; the increasing scale, frequency, and intensity of combat and operational training, including comprehensive snap exercises; and improved command and control and communication to "reduce decisionmaking time at all levels of the Armed Forces."<sup>342</sup> Russian

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338 "Chief of the General Staff of the Russian Armed Forces, General of the Army Valery Gerasimov holds briefing for foreign military attaches" (December 24, 2020). [http://eng.mil.ru/en/news\\_page/country/more.htm?id=12331668@egNews](http://eng.mil.ru/en/news_page/country/more.htm?id=12331668@egNews).

339 Gerasimov's comments to international interlocutors in the outbreak of the February 2022 invasion against Ukraine. Cited in: Zabrotskyi et al., "Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022," RUSI (November 2022), pp. 7-8. <https://static.rusi.org/359-SR-Ukraine-Preliminary-Lessons-Feb-July-2022-web-final.pdf>.

340 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022). <http://en.kremlin.ru/events/president/transcripts/70159>.

341 President of Russia, "Meeting with Defence Minister Sergei Shoigu" (December 8, 2015). <http://en.kremlin.ru/events/president/news/50892/print>.

342 President of Russia, "Defense Ministry Board meeting" (December 24, 2019).

leadership also expressed confidence in its asymmetric approaches by relying on “brains, intellect, discipline, and organization when handling relevant tasks,” its “creative approaches, discipline and responsibility,”<sup>343</sup> and its “concentrating efforts on key areas.”<sup>344</sup>

A pervasive sense of improved military capabilities seemed to influence the Russian leadership’s assessments of its relative position vis-à-vis the United States. On the one hand, Putin acknowledged on a number of occasions that the United States has “the biggest military potential in the world”<sup>345</sup> and quantitative advantage in capabilities such as “missiles, submarines and aircraft carriers.”<sup>346</sup> On the other hand, as argued by Shoigu in 2019, the perception was that “Russia is already fully effective in opposing America.”<sup>347</sup> This was mainly because of Russia’s asymmetric responses to the U.S. military advantage and its “...science, ... industry [and] ... new inventions.”<sup>348</sup> The argument was that Russia did not have to compete with the United States on all fronts or match every American capability. Instead of investing in aircraft carriers like the United States, it was sufficient for Russia to have a capability that can be used against them in what is “incomparably cheaper and more effective.” In the view of Shoigu, Russia’s military budget allocations and military capabilities were focused, not “scattered” to address requirements around the world.<sup>349</sup> In addition, while Putin touted the quality of new Russian systems like long-range precision strike weapons, he was publicly dismissive about the effectiveness of similar American systems, including Tomahawk cruise missiles or Patriot air and missile defense systems.<sup>350</sup> Reflecting growing confidence in Russia’s relative military power, General Gerasimov reportedly told

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343 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017). See also: President of Russia, “Defense Ministry Board meeting” (December 24, 2019).

344 President of Russia, “Defense Ministry Board meeting” (December 24, 2019).

345 President of Russia, “Plenary session of the 12th annual meeting of the Valdai International Discussion Club” (October 25, 2015). <http://www.en.kremlin.ru/events/president/news/50548/print>.

346 President of Russia, “Vladimir Putin’s annual news conference” (December 16, 2016).

347 “Interview with Defense Minister of the Russian Federation Sergey Shoigu for Moskovskiy Komsomolets Daily, 22 September 2019,” pp. 599-600.

348 Ibid.

349 Ibid.

350 President of Russia, “Defence Ministry Board meeting” (December 18, 2018). President of Russia, “Vladimir Putin answered questions from journalists” (December 22, 2022). <http://en.kremlin.ru/events/president/transcripts/70170>.

British counterparts in the outbreak of war against Ukraine that “Russia had achieved conventional military parity with the [United States].”<sup>351</sup>

Putin also seemed confident in Russia’s military superiority against individual European NATO allies. For example, commenting on the statement by then German Defence Minister Annegret Kramp-Karrenbauer that “Russia should be spoken with only from a position of strength,” Putin quipped in December 2020 that “...she repeated a fairly trite cliché which is being repeated in many NATO countries... It is absolutely meaningless from the point of view of defence policy because... Because! Because they need to take a look at what the Russian Army is like today, that’s why...”<sup>352</sup>

Russian political leadership paid close attention to military measures taken by NATO in response to Russia’s initial aggression against Ukraine in 2014. They noticed the increased NATO and U.S. military presence in the Baltic states, Poland, and Romania; the growing military budgets of NATO member states; the intensifying NATO’s air and maritime intelligence activity near Russia; the growing frequency of NATO exercises close to Russian borders; and NATO’s growing reinforcement capability through expansion of the NATO Response Force and Four 30s initiative.<sup>353</sup> For example, in monitoring the implementation of NATO Four 30s Initiative, Russia’s assessment in December 2019 was that the land component was completely set, the air component was ready at 76% and the navy at 93%, and that the initiative would be fully implemented by 2022.<sup>354</sup>

Putin recognized the need “to be very astute in tracking any changes in the balance of forces and military-political developments in the world, especially along the Russian border, and take timely action to adjust plans so as to neutralize potential threats our country may face...”<sup>355</sup> Russian leadership

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351 Gerasimov’s comments to international interlocutors in the outbreak of the February 2022 invasion against Ukraine. Cited in: Zabrotskyi et al., pp. 7-8.

352 Vladimir Putin comment on German Defence Minister Annegret Kramp-Karrenbauer’s statement that “Russia should be spoken with only from a position of strength.” President of Russia, “Annual News Conference” (December 17, 2020). <http://en.kremlin.ru/events/president/news/64671>.

353 President of Russia, “Expanded meeting of Defence Ministry Board” (December 11, 2015); President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016); President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017); President of Russia, “Defense Ministry Board meeting” (December 24, 2019).

354 President of Russia, “Defense Ministry Board meeting” (December 24, 2019).

355 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016).

did not, however, express concerns about the immediate impact of steps taken by NATO on regional military balance. The prevailing sense was rather that taking into account “factors and risks” associated with the buildup of NATO’s infrastructure near Russia’s border, Russia should “continue pursuing the course towards the development of the Army and Navy, and to maintain the high rates of military development we have achieved in recent years....”<sup>356</sup> Over the last few years, Russian leadership became increasingly concerned about NATO’s possible deployment of intermediate-range ground-launched missiles in Europe. This was a NATO capability that the Russian leadership was consistently—and vocally—concerned about.<sup>357</sup>

## **Impact of the Invasion Against Ukraine**

Russia’s planning for the invasion against Ukraine reflected the doctrinal importance of achieving decisive advantage in the IPW. To secure a favorable correlation of forces, Russia began to amass military equipment starting in spring 2021 and began to deploy these forces close to Ukrainian border starting in autumn 2021. The invasion plan envisaged that speed and the use of deception as to the time, location, scope, and scale of an attack would enable the rapid seizure of Kyiv and other operational objectives. Speed and deception would make any international support to Ukraine irrelevant. To preserve secrecy, premobilization was carried out in stages over a long period of time and was accompanied by disinformation, including the pretext of maneuvers and exercises and offers of negotiation. The need to preserve secrecy trumped the preparation of troops for combat.<sup>358</sup> To disorganize and quell Ukrainian resistance, Russia sought to eliminate Ukrainian leadership and to gain control over critical centers of political and economic power at the national and regional level. Consistent with Russian doctrine, the Ukrainian Armed Forces were to be degraded at the beginning of the campaign through a massive missile and airstrike campaign against air defenses, command and control (C2) infrastructure, airfields, troop assembly areas, and ammunition

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356 President of Russia, “Defence Ministry Board meeting” (December 18, 2018).

357 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 21, 2020).

358 Interestingly, Russia’s preparation to war against Ukraine closely resembled the Soviet playbook of preliminary measures for advanced preparation of forces for war. Following the Soviet preferences, Russia’s leadership seem to choose surprise even at the expense of preparations. See: Stephen M. Meyer, *Soviet Style Theater Assessments* (Cambridge, Mass.: MIT Center for International Studies, September 1989), pp. 11-12, 29. <https://apps.dtic.mil/sti/citations/ADA269791>.

storage depots. The plan leveraged the use of cyber and asymmetric means such as taking control of nuclear power plants to provide shelter for Russian troops, control over Ukraine's energy system, and gain the option to blackmailing Europe with the risk of radioactive pollution.<sup>359</sup>

Russian political and military leadership believed such actions would lead to a swift and easy victory over a 10-day period, to be followed by occupation and eventual annexation by August 2022.<sup>360</sup> Russia failed to meet these high expectations. Having suffered heavy losses, by early April 2022 Russia had retreated from around Kyiv, and re-scaled its ambitions to taking control of Donbas. Despite initial successes, Russia also failed to secure all of its initial gains in the east and south as Ukrainian counter-offensives in late summer 2022 expelled Russia's forces from the Kharkiv region and led to the recapture of Kherson.<sup>361</sup> Instead of a quick victory, the aggression against Ukraine changed into protracted war of attrition, forcing Putin to mobilize reservists to military service.<sup>362</sup> Instead of showing Russia's military might, its military performance in the initial stage of war highlighted Russia's decisionmaking, structural, operational, military culture, and capability deficiencies. It demonstrated the gaps between Russian theory and its practice of war and between its perceived and actual military capability. It also put into question the majority of pre-2022 assessments of Russia's relative military power.

Owing to failures of planning and decisionmaking, Russia did not take advantage of benefits of speed and surprise against Ukraine. Instead of leading to success, the focus of Russian leadership on surprising Ukraine about the time and scope of the attack rebounded against Russia. Tactical units were largely unprepared for combat. They did not receive orders until hours before they entered Ukraine and did not have a clear understanding of an overall plan and how their actions fit into it.<sup>363</sup> Effects of surprise were

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359 Zabrodskyi et al., pp. 1, 7-12, 24-25.

360 Ibid., p. 1.

361 Isabelle Khurshudyan, Paul Sonne, Serhiy Morgunov, and Kamila Hrabchuk, "Inside the Ukrainian counteroffensive that shocked Putin and reshaped the war," *The Washington Post* (December 29, 2022). <https://www.washingtonpost.com/world/2022/12/29/ukraine-offensive-kharkiv-kherson-donetsk/>.

362 "What does Putin's partial military mobilization mean for Russia and Ukraine?" *The Washington Post* (September 21, 2022). <https://www.washingtonpost.com/world/2022/09/21/russia-partial-mobilization-putin-war-ukraine/>.

363 Zabrodskyi et al., op. cit., pp. 26-27.

also mitigated by counterresponses by a United States that had discovered Russia's invasion plans well ahead of the invasion and shared them with Ukraine and the public.<sup>364</sup>

The opening period of the “special military operation” exposed structural deficiencies in Russia's military posture. As Russia did not declare war against Ukraine, it could not use conscripts. Battalion Tactical Groups (BTGs) generated for the invasion consisted of contract troops gathered from different peacetime units. As a result, BTGs lacked cohesion, were well below the official number of 700 to 900 servicemen, were not uniformed in their composition, were poorly equipped for assigned tasks, and had poor ability to absorb losses.<sup>365</sup> Despite all Russia's emphasis over the last 20 years on exercises and training, the conduct of war against Ukraine showed that the level of training was comparatively low.<sup>366</sup>

In the initial stage of war, Russian forces demonstrated limited ability to conduct efficient multi-domain operations. Operations of the Aerospace Forces and the Navy, both in terms of command and control and the prioritization of targets, were subordinated to the logic of land operations conducted by the Ground Forces. This inhibited their added value to achieve strategic goals. Russia also failed to coordinate air operations to support ground forces. Even combined-arms warfare in large formations on land proved to be difficult as Russia's forces demonstrated inadequate coordination of the activities of its tanks, infantry, and artillery. Operations showed that fratricide was a widespread problem for the Russian forces. Instead of magnifying one another's effects as intended in theory, Russian capabilities undermined each other in practice and had to be employed sequentially. For example, Russia's EW systems disrupted not only Ukrainian but also Russian radars; Russian air defenses regularly engaged friendly aircraft; and Russian ground units operating in complex terrain were subject to friendly exchanges of fire and friendly artillery strikes.<sup>367</sup>

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364 Dara Massicot, “What Russia Got Wrong. Can Moscow Learn From Its Failures in Ukraine?” *Foreign Affairs* (March/ April 2023).

365 Zabrodskyi et al., pp. 35, 45-47; Robert Dalsjö, Michael Jonsson, and Johan Norberg, “A Brutal Examination: Russian Military Capability in Light of the Ukraine War,” *Survival* 64, no. 3 (2022), p. 9.

366 Zabrodskyi et al., p. 29.

367 Zabrodskyi et al., pp. 2, 45, 50-52; Robert Dalsjö, Michael Jonsson and Johan Norberg, “A Brutal Examination: Russian Military Capability in Light of the Ukraine War,” p10; “Chapter 4: Strategic Policy,” *Strategic Survey 2022: The Annual Assessment of Geopolitics*, IISS (December 2022), p. 38.



Russian military performance in the IPW was also inhibited by Russia's military culture. Fusion of information was undermined by the cultural aversion to report failures or to distribute sufficient situational awareness to other units that were executing orders. Russian units demonstrated the tendency to execute their orders even though it had become apparent that assumptions in those orders significantly differed from the situation on the ground. There was also a near absence of reversionary courses of action in Russian military orders. The low morale of Russian troops and poor unit cohesion also exposed a military culture that does not value individual soldiers and treats people as an inexhaustible resource that are expendable.<sup>368</sup> By focusing on Russia's overall quantitative superiority in military equipment, Russian leadership overlooked the importance of the human factor in effectively operating that equipment.<sup>369</sup>

The conduct of warfare against Ukraine exposed deficiencies in Russian military capabilities. While Russia's cruise and ballistic missile systems were delivered in sufficient number to inflict heavy damage on Ukraine, some Russian systems had a surprisingly low success rate by either failing to launch, failing to hit the target, being intercepted by air defense, or failing to explode on contact. Reportedly, the failure rate of some Russian missiles in the initial months of the aggression was up to 60%. This seems to particularly apply to Russia's air-launched long-range land-attack cruise missiles such as the Raduga Kh-101 (RS-AS-23A Kodiak) or Kh-555.<sup>370</sup> In conducting a lengthy long-range strike campaign, Russian forces also lacked effective battle damage assessment capabilities. They demonstrated limited capability for targeting mobile targets.<sup>371</sup> Even though during the first 48 hours of the military operation the initial Russia strike campaign managed to effectively target many military sites on its target list, there were few engagements

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368 Zabrodskyi et al., pp. 49-52.

369 Tracey German, "Learning the wrong lessons: Russian views of the changing character of conflict" in: *War changes everything: Russia after Ukraine*, Marc Ozawa, ed., NDC Research Paper, no. 28 (February 2023), pp. 45-46. <https://www.ndc.nato.int/news/news.php?icode=1798>.

370 Douglas Barrie, "Ukraine: Russia's air-launched cruise missiles coming up short." Military Balance Blog (April 1, 2022). <https://www.iiss.org/blogs/military-balance/2022/04/ukraine-russias-air-launched-cruise-missiles-coming-up-short>.

371 Zabrodskyi et al., pp. 25-26; Erik Berglund and Andreas Hörnedal, "The Cruise Missile Will Always Get Through?" – Air War Over Ukraine, in *Another Rude Awakening — Making Sense of Russia's War Against Ukraine*, Jenny Lundén et al., eds., FOI, FOI-R--5332—SE (June 2022), p. 32.

against tactical groupings of forces and mobile capabilities. It is estimated that Russia's strikes managed to engage only about 10% of Ukrainian mobile air-defense sites.<sup>372</sup> This resembles Russia's experience in its 2008 war against Georgia when it also struggled to overcome Georgian air defenses.<sup>373</sup>

Failing to destroy the Ukrainian air defense network in the initial phase of war, Russia never gained effective air superiority over Ukraine.<sup>374</sup> Russian air operations were hesitant and largely ineffective. The sortie rate of Russian Aerospace Forces (VKS) was surprisingly low with Russian-manned aircraft mainly delivering unguided bombs against area targets, including civilian buildings, and operating mainly near their own border and over friendly ground forces.<sup>375</sup> This could be partially explained by insufficient training in air-to-ground operations and the limited flying hours of Russia's pilots.<sup>376</sup>

During the initial phase of the invasion, Russia demonstrated that it had integrated cyber capabilities into its approach to warfare. It conducted several major cyberattacks against key Ukrainian political and infrastructure targets before the invasion, including a damaging and sophisticated strike against Ukrainian military command and control. Still, Russia did not gain a decisive advantage in cyberspace. Most of Russia's cyberattacks were defeated or mitigated relatively quickly and did not achieve strategic effects. This was mainly because of support provided to Ukraine by the West but also private-sector operators like Microsoft. Of particular importance was the provision to Ukraine of thousands of portable and encrypted ground communications links that enabled its access to the SpaceX-owned Starlink satellite internet constellation.<sup>377</sup>

As its aggression against Ukraine continued, Russia suffered from massive attrition. It lost a vast quantity of military equipment, including equipment important in any future conflict with NATO. As of February 2023, Russia's

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372 Zabrodskyi et al., p. 24.

373 Tracey German, "Learning the wrong lessons: Russian views of the changing character of conflict," p. 44.

374 "Chapter 4: Strategic Policy," p. 39.

375 Erik Berglund and Andreas Hörnedal, p. 31; Robert Dalsjö, Michael Jonsson, and Johan Norberg, p. 19.

376 Robert Dalsjö, Michael Jonsson, and Johan Norberg, p. 12.

377 "Chapter 4: Strategic Policy," p. 36; Andreas Loverdos, *The Offence-Defence Balance: NATO's Growing Cyber Challenge*, NATO Parliamentary Assembly (November 19, 2022), pp. 16-18, <https://www.nato-pa.int/download-file?filename=/sites/default/files/2023-01/015%20DSCFC%2022%20E%20rev.%201%20fin%20-%20OFFENSE%20DEFENCE%20BALANCE%20CYBER%20CHALLENGE%20-%20REPORT%20LOVERDOS.pdf>.

casualties in war were estimated at approaching 200,000 of killed and wounded troops.<sup>378</sup> Russia also lost over 9,000 pieces of military equipment, including main battle tanks, armored and infantry fighting vehicles, armored personal carriers, and artillery systems.<sup>379</sup> It depleted its inventory of ballistic and cruise missiles. According to the Ukrainian defense minister, Oleksii Reznikov, between February 2022 and January 3, 2023 Russia used about 2,237 of its long-range land-attack precision-guided missiles (what constituted 81% of its inventory), with only 536 of those missiles left.<sup>380</sup> To compensate for that, Russia extensively engaged ground targets with older and obsolete systems such as 9K79 OTR-21 Tochka (SS-21 Scarab A) or systems with the primary mission other than striking on land targets such as 3K60 Bal (SSC-6 Sennight) and 3K55 Bastion (SSC-5 Stooge) coastal missile systems, Kh-22/32 and 3M-55 Oniks anti-ship missiles, or the S-300 air defense system which had an inventory relatively higher than newer systems.<sup>381</sup>

Russia's heavy losses and military deficiencies exposed by war against Ukraine warrant significant reappraisal of actual Russian combat capabilities and its relative power vis-à-vis NATO. However, for a variety of reasons, applying the conclusions from Russia's performance in Ukraine to a scenario of the future military war against NATO could be misleading. Poor performance against Ukraine does not necessarily mean that Russia would make similar mistakes against the Alliance.

To a significant extent, Russia's failures in the initial stage of war against Ukraine were driven by false and overoptimistic assumptions about Ukraine's lack of will and capability to resist. This had cascading and degrading effects on the performance of Russia's troops that failed to make necessary logistical preparations, were overstretched in terms of the number of axes embarked upon and the small size of the force employed for many tasks, and lacked sufficient ammunition, fuel, food, accurate maps, properly established communications, and time to coordinate the activities with other tactical

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378 Helene Cooper et al., "Soaring Death Toll Gives Grim Insight Into Russian Tactics," *The New York Times* (February 2, 2023). <https://www.nytimes.com/2023/02/02/us/politics/ukraine-russia-casualties.html>.

379 "Attack On Europe: Documenting Russian Equipment Losses During The 2022 Russian Invasion Of Ukraine," Oryx (February 2023). <https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html>.

380 Oleksii Reznikov, X (formerly Twitter) (January 6, 2023). <https://twitter.com/oleksiireznikov/status/1611449870040109058>.

381 UK Ministry of Defense, X (formerly Twitter) (June 10, 2022). [https://twitter.com/DefenceHQ/status/1535495311044579328?mc\\_cid=3a4d1b92ac&mc\\_eid=5abf120691](https://twitter.com/DefenceHQ/status/1535495311044579328?mc_cid=3a4d1b92ac&mc_eid=5abf120691).

units.<sup>382</sup> Russia would not necessarily make similar mistakes against a NATO country.

Despite failures and deficiencies, the performance of Russia's armed forces against Ukraine demonstrated some Russian strengths. In fact, as observed by the authors of comprehensive RUSI analysis of the initial phase of Russia's war against Ukraine, Russia came much closer to achieving the goals of its invasion plans than is widely appreciated and could have succeeded in doing so if the execution was done competently.<sup>383</sup> In the initial phase of its campaign, Russia succeeded in creating favorable force ratios on the main axes and asserting control over a significant portion of Ukrainian territory. By the end of March 2022, Russia gained control of about 17.95% of Ukraine or 108,337 km<sup>2</sup> (in addition to the 6.45% of Ukrainian territory it already occupied).<sup>384</sup> This roughly compares to the territory of Bulgaria, or Estonia and Latvia taken together. This would seem to indicate that Russia could prevail in a short, sharp, and geographically limited war with NATO.<sup>385</sup> Observing Russia's invasion against Ukraine, Estonian Prime Minister Kaja Kallas stated that NATO's defense posture would not be sufficient to repel such an initial Russian attack and that the Baltic states would have to rely on being "liberated" by reinforcements from other NATO countries.<sup>386</sup>

During the campaign against Ukraine, Russia's Armed Forces demonstrated flexibility and the ability to rapidly adapt within assigned boundaries. They also demonstrated lethality and determination to fulfill their orders. In places where Russian forces had anticipated heavy resistance and tactical commanders understood the intent, Russian forces were able to ultimately fulfill their mission despite heavy losses.<sup>387</sup>

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382 Zabrodskyi et al., pp. 26-27.

383 Ibid., p. 12.

384 Pierre Breteau, "War in Ukraine: Russia now controls only 16% of Ukrainian territory," *Le Monde* (January 6, 2023). [https://www.lemonde.fr/en/les-decodeurs/article/2023/01/06/war-in-ukraine-russia-now-controls-only-16-of-ukrainian-territory\\_6010578\\_8.html](https://www.lemonde.fr/en/les-decodeurs/article/2023/01/06/war-in-ukraine-russia-now-controls-only-16-of-ukrainian-territory_6010578_8.html).

385 David Johnson, "Would We Do Better? Hubris and Validation in Ukraine," *War on the Rocks* (May 31, 2022), <https://warontherocks.com/2022/05/would-we-do-better-hubris-and-validation-in-ukraine/>; Robert Dalsjö, Michael Jonsson, and Johan Norberg, p. 19.

386 Martin Hurt, "Large-Scale War and NATO," *Russia's War in Ukraine Series* no. 4, ICDS (June 2022), p. 3. [https://icds.ee/wp-content/uploads/dlm\\_uploads/2022/06/ICDS\\_Brief\\_Russia%C2%B4s\\_War\\_in\\_Ukraine\\_No4\\_Martin\\_Hurt\\_June\\_2022.pdf](https://icds.ee/wp-content/uploads/dlm_uploads/2022/06/ICDS_Brief_Russia%C2%B4s_War_in_Ukraine_No4_Martin_Hurt_June_2022.pdf).

387 Zabrodskyi et al., pp. 44, 47.

Russia proved its ability to strike throughout operational depth by using long-range precision fires in high-intensity conflict. While not effective in destroying mobile targets, in the first 48 hours of the invasion, Russian missiles engaged 75% of Ukrainian static air defense sites. By pushing Ukraine to disperse its air defense systems, Russian strikes created a suppression effect, making Ukraine incapable of conducting a coordinated defense during the first days of invasion. Many Russian long-range strike systems proved to be very effective. 9M720 and 9M723 Iskander (SS-26 Stone) short-range ballistic missile systems were exceedingly difficult for Ukrainian air defense to intercept. While cruise missiles could be intercepted—with the Ukrainian success rate of interceptions around 12–18% in the first phase and 40–60% in the second phase of the war—and, additionally, with some of them underperforming, Russia demonstrated an ability to routinely adapt flight routes for every mission. Russian missiles largely missed their targets not because of a lack of intelligence, but because of self-imposed frictions in their kill chains. The result was that intended targets were usually attacked too late.<sup>388</sup>

Russian surface-to-air missile (SAM) complexes were also lethal during the conflict. Russia demonstrated the ability to take advantage of its UAVs such as the Orlan-10, even though their attrition rate was high and their number insufficient. Although Russian forces suffered extensively from the use of its own EW systems, these systems were highly effective against Ukrainian forces, jamming air-to-ground and air-to-air communications of Ukrainian aircraft, strike drones, and precision artillery systems.<sup>389</sup> Over the course of the war, Russian Armed Forces learned from its mistakes proving the ability to jam Ukrainian military communication without affecting its own.<sup>390</sup>

As highlighted by some observers, the spoken or unspoken implications of many Western analyses are that NATO would do better than the Russians and would also outperform Ukrainian forces. However, some of the flaws in Russia's personnel strength, equipment, supplies, and training might well exist within the militaries of NATO members.<sup>391</sup> NATO allies can learn from

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388 Ibid., pp. 2, 24-25, 41, 53-55.

389 Ibid., pp. 30, 38, 59.

390 Dara Massicot, "What Russia Got Wrong. Can Moscow Learn From Its Failures in Ukraine?"

391 David Johnson, "Would We Do Better? Hubris and Validation in Ukraine;" Robert Dalsjö, Michael Jonsson, and Johan Norberg, p. 22.

observing Russia's and Ukraine's combat operations, as they lack practical experience in high-intensity multi-domain or combined-arms operations against a determined adversary involving the employment of battalion or larger formations.<sup>392</sup> Also, even though Ukraine heavily relied on Western support, before the invasion Ukraine had some military capabilities that most individual NATO allies lack and of which, in some cases, there is a shortfall throughout the whole Alliance. This particularly applies to a layered air defense system comprising long-range, medium-range, and short-range missile systems to protect against Russian missile attacks.<sup>393</sup>

## **Opportunities and Challenges over the Next Decade**

By invading Ukraine in February 2022, the primary goal of Putin was to achieve his strategic vision of incorporating Ukraine into Russia. The related goal, however, was achieving his strategic objectives versus NATO. A rapid and successful large-scale Russian invasion might have had a profound psychological impact on the Alliance, only reinforcing the concerns about Russia's growing military power that existed before 2022. Russia's overall military potential would have further increased with merging Ukraine's military capabilities and defense industrial capacity. The pace of taking full sovereignty over Belarus could have also accelerated. Russia's confidence about its ability to achieve a decisive advantage in a conflict against NATO would have grown, strengthening Russian leadership's confidence that it could reshape the European security order on its terms from a position of strength. Because of the Ukrainian resistance, none of these goals were achieved.

The war against Ukraine shook Russian leadership's pre-war plans regarding the further modernization of Russia's armed forces. For example, in December 2021 Putin claimed during his annual address to the Federal Assembly that the share of modern weapons and military equipment in the armed forces would reach nearly 76% by 2024.<sup>394</sup> As a result of "the special military operation," Putin's emphasis shifted to the need for taking "the entire scope of necessary measures to achieve a qualitative renewal

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392 David Johnson, "Would We Do Better? Hubris and Validation in Ukraine."

393 Martin Hurt, p. 2.

394 President of Russia, "Presidential Address to the Federal Assembly" (April 21, 2021). <http://en.kremlin.ru/events/president/news/65418>.

and improvement of the Armed Forces.”<sup>395</sup> For this purpose, Putin announced that there will be “no funding restrictions” and that the Army will get “anything” that it asks for.<sup>396</sup> Paraphrasing Czar Nicholas I, he also underlined that a “modern and efficient Army and Navy are a guarantee of the country’s security and sovereignty, and a guarantee of its stable development and its future. That is why, as before, we will give priority attention to strengthening our defense capability.”<sup>397</sup>

Putin’s post-2022 assessments about the ability to rebuild Russia’s military capabilities over the coming years repeated many of the same themes of his speeches over the last two decades: that Russia has “every single thing,” including the resources to build up its potential; that modernization can be accomplished “without cutting any slack;” that in doing so, Russia will rely on its own “scientific, technological, production and personnel resources;” and that rearmament will not happen on the expense of “economic growth or social development.” According to Putin, the Russian Armed Forces will be improved and strengthened “calmly, routinely and consistently, without haste,” and that ongoing conflict against Ukraine will not prevent Russia from implementing all long-term plans.<sup>398</sup>

Some of Putin’s past statements regarding rearmament may gain new relevancy in this new context. As Putin argued in 2014, Russia could not allow itself to “relax even for a minute” as with “a single significant mistake in modernizing the Army and the Navy and training military personnel, the situation ... can change in the wink of an eye...”<sup>399</sup> Also, as he argued in 2019, the goal of Russia was not “a one-time rearmament” but “the Army and Navy must always have the best equipment and technology.”<sup>400</sup> Russia’s post-Ukraine rearmament is also likely to be driven by Putin’s guideline that was articulated in 2020: that what Russia could not afford to do is “giving the edge on anything” to its adversaries and “to have to catch up” to

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395 President of Russia, “Meeting of Defence Ministry Board” (December 21, 2022).

396 Ibid.

397 President of Russia, “Congratulations on the occasion of Defender of the Fatherland Day” (February 23, 2023). <http://en.kremlin.ru/events/president/transcripts/70575>.

398 President of Russia, “Meeting of Defence Ministry Board” (December 21, 2022).

399 Speech of President Vladimir Putin at the expanded meeting of the Defence Ministry Board (December 22, 2016).

400 Speech of President Vladimir Putin at the Defence Ministry Board meeting (December 24, 2019).

them.<sup>401</sup> The constant theme of Putin's speeches over the next years is likely to be that all plans should be accomplished "according to the deadlines" and "within the framework of the allocated budgetary funding."<sup>402</sup> Although Putin's expectation of "continuous movement forward" had been clearly communicated to Russian military leadership in the past, it is likely to be communicated even stronger over the next few years.<sup>403</sup> What, however, will be a significant departure from the past is that over the next decade, Russia would not have "such favorable conditions for creating modern and efficient Armed Forces" as it had in 2009.<sup>404</sup>

Whether over the next decade Russia will be in a relatively better or worse position to take advantage of the IPW against NATO depends on many factors. First, the results of the war against Ukraine and the final tally of the destruction of Russian forces will be of crucial importance. As CNAS experts observe, the more degraded Russia's military becomes, the more difficult it will be for political leadership to decide where to devote resources—to replenish lost forces or to add or develop new capabilities.<sup>405</sup> Reports in the Russian press also suggest that, at least in the short term, production of Russian armaments will not be able to fully equip formations created after the partial mobilization and at the same time make up for losses.<sup>406</sup> What NATO planners, however, will also have to keep in mind is that even though Russia's equipment losses were substantial, it does not apply to all capabilities equally, including those that would be relevant in regional war against NATO such as the most advanced air defense systems or counter-space systems. NATO has also provided a substantial amount of military aid to Ukraine, and

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401 President of Russia, "Expanded meeting of the the Defence Ministry Board" (December 21, 2020).

402 President of Russia, "Expanded meeting of Defence Ministry Board" (December 11, 2015).

403 Russian Federation, "Russian Defence Minister General of the Army Sergei Shoigu holds teleconference with leadership of Armed Forces" (January 12, 2021).  
[http://eng.mil.ru/en/news\\_page/country/more.htm?id=12334317@egNews](http://eng.mil.ru/en/news_page/country/more.htm?id=12334317@egNews).

404 President of Russia Dmitry Medvedev, "Speech at an Extended Session of the Defence Ministry Board" (March 17, 2009).

405 Michael Kofman et al., "Assessing Russian State Capacity to Develop and Deploy Advanced Military Technology," CNAS (October 2022), p. 7. <https://www.cnas.org/publications/reports/assessing-russian-state-capacity-to-develop-and-deploy-advanced-military-technology>.

406 "Press review: Putin praises defense industry and Kiev investigates deadly helicopter crash," TASS (January 19, 2023). <https://tass.com/pressreview/1564299>.



the extent of this support would have an impact on the Alliance's capabilities in the future.

What could also be decisive is the relative capability of NATO and Russia to replenish military stocks over the upcoming years. Russia's ability to do so could be hampered by the impact of Western sanctions and export controls on the Russian economy, which could impact overall defense spending as well as its access to critical Western technologies such as microchips and semiconductors. The extent of the harm depends on the extent to which Russia can insulate defense spending from the expected economic downturn, establish a coherent and successful import substitution program for the most sensitive Western technologies, secure alternative supplies from other countries, and circumvent Western restrictions. The experience of the 1990s and 2000s demonstrate that despite economic crises, Russian defense spending never fell below 2.7% of GDP. The experience post-2014 shows that even though Russia was not successful in export substitution, it was able to secure technologies needed for specific weapon systems.<sup>407</sup>

The Western capacity to renew weapon stocks and the ability of European NATO members to deploy new "transformative" capabilities such as air and missile defense and long-range strike capabilities could be boosted by growing defense spending across NATO. However, European NATO allies will face structural problems of rebuilding their defense industrial bases.<sup>408</sup> Past experience demonstrates that in some cases, political commitments to rebuild military capabilities of some NATO allies are not followed by concrete actions.<sup>409</sup> One litmus test, for example, will be European commitments to acquire long-range precision strikes and reduce the reliance on U.S. capabilities.

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407 Michael Kofman et al., "Assessing Russian State Capacity to Develop and Deploy Advanced Military Technology," pp. 4-6.

408 Bojan Pancevski, "Europe Is Rushing Arms to Ukraine but Running Out of Ammo," *The Wall Street Journal* (December 22, 2022).

409 See for example: Laura Pitel, "Germany's military upgrade to take 'half a century' at current pace, says report," *Financial Times* (March 14, 2023).

Table 5. Projected Precision-strike Capacity of U.S. Naval Platforms: 2021-2036

PGM Delivery Platform	Max. Launch Capacity per Platform	Type of PGMs	2021		2026		2036	
			Platforms	Total launch capacity	Platforms	Total launch capacity	Platforms	Total launch capacity
Attack Submarines	Los Angeles, SSN-688	TLAM/SM-6	28	1,064	20 <sup>410</sup>	760	16-17	608-646
	Seawolf, SSN-21		3	135	3	135	3	135
	Virginia, SSN-774		19	703	21	833	38 <sup>411</sup>	1,483
	Ohio, SSBN-726		4	616	4	616	-	-
	Total		54	2,517	48 <sup>412</sup>	2,344	57-58 <sup>413</sup>	2,226-2,264
	Ticonderoga (CG-47)	Conventional Prompt Strike (CPS) <sup>417</sup>	22	2,684	5 <sup>414</sup>	610	-	-
Large Surface Combatants	Arleigh Burke Class Guided Missile Destroyers (DDG-51)		68	6,528	786 <sup>415</sup>	7,488	74-77 <sup>416</sup>	7,104-7,392
	Zumwalt (DDG-1000) Class Destroyer		-	-	3	36	3	36
	DDG (X)		-	-	-	-	?	-
	Total		68	9,212	86	8,134	77-80	7,140-7,428
	Total		122	11,729	134	10,478	134-138	9,366-9,692

410 The projection assumes the retirement of eight SSN-688 by 2026. Richard R. Burgess, "Navy Plans to Retire 48 Ships During 2022-2026," SeaPower (December 11, 2020). <https://seapowermagazine.org/navy-plans-to-retire-48-ships-during-2022-2026/>.

411 The projection assumes the coming into service of all 38 Virginia class submarines that are planned to be procured. Ronald O'Rourke, "Navy Virginia (SSN-774) Class Attack Submarine Procurement...", p. 13.

412 Ronald O'Rourke, "Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress," Congressional Research Service (December 21, 2022), p. 13. <https://sgp.fas.org/crs/weapons/RL32665.pdf>.

413 Ibid.

414 Ronald O'Rourke, "Navy DDG(X) Next-Generation Destroyer Program: Background and Issues for Congress," In Focus, Congressional Research Service (December 21, 2022), p. 1. <https://crsreports.congress.gov/product/pdf/IF/IF11679>.

415 The projection assumes a total of 86 ships with three DDG-1000 Zumwalt and two DG-1000s delivered to Navy every year. Ronald O'Rourke, "Navy Force Structure and Shipbuilding Plans...", p. 13.

416 The projection assumes a total of 77-80 ships, including three DDG-1000 Zumwalt, *ibid.*, p. 13.

417 Ronald O'Rourke, "Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress," Congressional Research Service (February 3, 2022), p. 7. <https://sgp.fas.org/crs/weapons/RL32109.pdf>.

418 Ronald O'Rourke, "Navy DDG(X) Next-Generation Destroyer Program...", p. 2.

- Projections in the table show U.S. attack submarines' and large surface combatants' capacities to load precision-guided munitions will slightly decrease by 2036. According to the available estimates, by the mid-2030s, the United States will possess around 1,400 Block V Tomahawk cruise missiles.<sup>419</sup> However, the number of SM-6 missiles will increase with the current Navy requirement for 2,331 SM-6 missiles.<sup>420</sup> The inventory of air-launched cruise missiles will increase with the planned procurement of 7,500-10,000 different variants of JASSM missiles, including AGM-158D with range up to 1,800 km.<sup>421</sup> By mid-2035, the United States plans to procure 2,456 F-35s that would increase the capacity to deliver these missiles.<sup>422</sup> The number of Air Force bomber forces is also planned to increase from the current 143 to 173 bombers by the mid-2030s.<sup>423</sup> In addition, the United States also plans to procure about 1,202 PrSM ground-launched missiles by FY2027.<sup>424</sup> The overall U.S. long-range precision strike inventory would be also supplemented by different types of hypersonic vehicles that are currently developed by the United States.<sup>425</sup>

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419 David Axe, "America's Tomahawk Cruise Missiles Is Shrinking—And Fast," *The National Interest* (July 27, 2021), <https://nationalinterest.org/blog/reboot/americas-tomahawk-cruise-missiles-shrinking%E2%80%94and-fast-190597>.

420 John R. Hoehn, "Precision-Guided Munitions..." (version of November 6, 2019), p. 25, <https://crsreports.congress.gov/product/pdf/R/R45996/2>.

421 U.S. Air Force, *Joint Air To Surface Standoff Missile (JASSM) Selected Acquisition Report (SAR)*, p. 10; Garrett Reim, "USAF aims to double long-term JASSM production up to 10,000 units," *Flight Global* (September 27, 2019), <https://www.flightglobal.com/fixed-wing/usaf-aims-to-double-long-term-jassm-production-up-to-10000-units/134510>; Brian W. Everstine, "USAF to Start Buying 'Extreme Range' JASSMs in 2021," *Air And Space Forces Magazine* (February 14, 2020), <https://www.airandspaceforces.com/usaf-to-start-buying-extreme-range-jassms-in-2021/>.

422 U.S. Department of Defense plans to purchase a total of 1,763 F-35As, 353 F-35Bs, and 340 F-35Cs. See: Congressional Budget Office, "Availability and Use of F-35 Fighter Aircraft" (April 2022), <https://www.cbo.gov/publication/57966>.

423 Jason Sherman, "DOD 15-year plan shrinks overall aircraft inventory; grows bomber, refueling, SOF fleets," *Inside Defense* (April 25, 2023).

424 Department of Defense, "Fiscal Year (FY) 2023 Budget Estimates, Justification Book of Missile Procurement," Army (April 2022), p. 31. [https://www.asafm.army.mil/Portals/72/Documents/BudgetMaterial/2023/Base%20Budget/Procurement/MSLS\\_ARMY.pdf](https://www.asafm.army.mil/Portals/72/Documents/BudgetMaterial/2023/Base%20Budget/Procurement/MSLS_ARMY.pdf).

425 Congressional Budget Office, "U.S. Hypersonic Weapons and Alternatives" (January 2023), <https://www.cbo.gov/publication/58924>; Kelley M. Saylor, "Hypersonic Weapons: Background and Issues for Congress," Congressional Research Service, R45811 (February 13, 2023), <https://sgp.fas.org/crs/weapons/R45811.pdf>.

- It could be expected that other NATO allies will also increase their inventories of long-range precision strike platforms. For example, the number of F-35 aircraft capable of delivering JASSM in the possession of non-U.S. NATO allies will increase to about 500 aircraft.<sup>426</sup> Some NATO allies have already stated their intentions to develop or acquire long-range precision strike platforms.<sup>427</sup> Still, the exact numbers and timeframes for acquiring such capabilities are unclear.

Putin's statements seem to indicate that defense production output is an area of perceived Russian strength vis-à-vis NATO. One measure is his confidence in the capacity of Russia's defense industrial complex to accelerate production rates and increase its capacity.<sup>428</sup> Deliveries of Western military equipment to Ukraine are used by Russia to assess remaining NATO military equipment. According to Putin, Russia "count[s] everything that is being sent... how many systems... are in the depots, how many more they can manufacture and how fast, and if they can train the necessary personnel."<sup>429</sup> Highlighting comparative advantages in the outputs of some areas of the defense sector, Putin boasted on several occasions that Russia's production rate of air defense missiles is three times higher than of the United States and that Russia's production of such systems is comparable to total world production.<sup>430</sup> While Putin admits the U.S. defense sector is large and could be "drummed up," this would not be easy because of the budgetary processes. Also, once some of the Western systems would be depleted in Ukraine such as Patriot air defense systems, he believes it would be difficult for the West to supply more

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426 Lockheed Martin, "Alliance-Based Deterrence: The F-35 Strengthens NATO Partnerships" (June 14, 2021). <https://www.f35.com/f35/news-and-features/alliance-based-deterrence-strengthening-nato-partnerships.html>.

427 Eric Edelman, Christopher Bassler, Toshi Yoshihara, and Tyler Hacker, "Rings of fire: a conventional missile strategy for a post-INF Treaty world," Center for Strategic and Budgetary Assessments (August 24, 2022), <https://csbaonline.org/research/publications/rings-of-fire-a-conventional-missile-strategy-for-a-post-inf-treaty-world>; Adam Forest, "UK and France to strike deal on precision weapons at Paris Summit," *The Independent* (March 10, 2023), <https://www.independent.co.uk/news/uk/politics/uk-france-sunak-macron-weapons-ukraine-nato-b2297543.html>.

428 President of Russia, "Vladimir Putin answered questions from journalists" (December 22, 2022); "Russia's military-industrial complex continues to increase capacity — Putin," TASS (January 17, 2023), <https://tass.com/defense/1563401>.

429 President of Russia, "Vladimir Putin answered questions from journalists" (December 22, 2022).

430 President of Russia, "Meeting with Belgorod Region Governor Vyacheslav Gladkov" (January 24, 2023). <http://en.kremlin.ru/events/president/transcripts/70389>.

and replace the systems.<sup>431</sup> The basis of Putin's perception is the success in 2022 in expediting the supply of basic combat equipment to Russia's armed forces by so that it increased by 30%. This included the increase in the delivery of the ammunition for artillery, missile systems, and aircraft from 69% to 109%.<sup>432</sup> The higher rate of Russian missile production seems to be reflected in Ukrainian estimates that between February 2022 and January 2023, Russia was able to produce 56 Iskander ballistic and cruise missiles, 150 Kalibr missiles, 290 Kh-101 missiles, and 20 Kinzhal missiles, totaling more than 500 missiles per year.<sup>433</sup> In contrast, some earlier analyses had estimated that Russia's maximum annual production capacity was no higher than 225 combined of Oniks, Kalibr, Kh-101, 9M729, Kh-59 cruise missiles, and Iskander-M tactical ballistic missiles.<sup>434</sup>

Second, the relative ability of Russia and NATO to prevail in the IPW in direct conflict depends on identifying the right lessons from Russia's war against Ukraine. Public statements by Putin and Shoigu demonstrate the political attention given to the need for doing so. According to Putin, the insights about Russia's capability gaps gained during the war will be used in efforts to "improve and substantially upgrade the performance of weapons and equipment" and the "further development and buildup" of Russia's Armed Forces. Putin emphasized that the special attention should be given counter-artillery warfare, target detection, communications systems, automated command and control systems for troops and weapons, improving the ability of fighters and bombers to operate in the zone covered by modern air defense systems, upgrading and increasing the number of strike and reconnaissance drones and loitering munitions, and improving the methods of using these drones and munitions. Also, according to Putin, a lesson from the conflict is that artificial intelligence should be used more widely at all levels of decisionmaking as "the weapons systems that operate quickly and almost automatically are the most effective ones."<sup>435</sup> Putin also pointed out the need to improve more mundane but indispensable elements

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431 President of Russia, "Vladimir Putin answered questions from journalists" (December 22, 2022).

432 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022).

433 <https://twitter.com/oleksiireznikov/status/1611449870040109058>.

434 Pavel Luzin, "Russian Challenges in Missile Resupply, The Jamestown Foundation," *Eurasia Daily Monitor* 19, no. 90 (June 16, 2022). <https://jamestown.org/program/russian-challenges-in-missile-resupply/>.

435 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022).

of Russia's military that seemed to be underappreciated over the last decade. These include maintenance and repair units within armed forces as well as the quality and supply of the basic personal equipment of Russian troops including medical kits, food, dry rations, uniforms, footwear, protective helmets, body armor, night vision devices, or new generation sniper rifles. The improvement of Russian military equipment is to be facilitated by the practice of visiting the front line by weapons designers and engineers to check the tactical and technical characteristics of weapons and equipment in real combat situations. A special role in the capability-rebuilding process was given to the Military-Industrial Commission, supposedly to facilitate interactions between the defense industry, science, and the Armed Forces.<sup>436</sup>

The war against Ukraine has provided Russian leadership with a better understanding of Russia's deficiencies. Nevertheless, it also seemed to reinforce pre-existing perceptions about Russia's capabilities and advantages. This particularly applies to the nuclear triad, air defense systems, and certain Navy capabilities, such as "unique unmanned underwater systems."<sup>437</sup> The conflict showed Russian leaders the pressing need to expand the arsenals of the latest strike weapons, including Kinzhal and Tsirkon high-precision hypersonic missile systems that, according to Putin, give Russia certain advantages given their range and speed.<sup>438</sup> Russia is likely to increase its capacity to deliver these missiles. According to the Western estimates made before the invasion against Ukraine, over the next decade Russia was projected to increase the number of delivery vehicles for long-range precision strikes. For example, in 2020, the International Institute for Strategic Studies estimated that, even taking into account the experience of Russian shortfalls, it would be reasonable to calculate that by 2030 Russia's navy would have launch capacity for around 1,550 Kalibr or equivalent missiles from more than 80 vessels.<sup>439</sup> A RUSI analyst estimated in 2021 that the number of cruise missile "slots" available aboard Russian submarines will more than double from 2020 to 2030 to nearly 650 in

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436 Ibid.

437 Ibid.

438 President of Russia, "Vladimir Putin answered questions from journalists" (December 22, 2022).

439 *Russia's Military Modernisation: An Assessment*, p. 110.

number.<sup>440</sup> For Russian leadership, the experience of the special military operation also provides important information about NATO capabilities used in the conflict. All this information, according to Putin, should be carefully analyzed by the General Staff and Russia's Ministry of Defence—and systematized as quickly as possible for incorporation in programs, as well as plans for improved combat training and exercises at all levels—and supplying the troops with the necessary equipment.<sup>441</sup>

Third, comparing Russia's and NATO's abilities to prevail in the IPW will depend on the ability to quickly implement the right lessons. Implementation always takes time. Addressing the heavy losses and deficiencies exposed by the war against Ukraine, the Russian Ministry of Defence has already announced structural reforms. Between 2023 and 2026, it plans to increase the size of Russia's Armed Forces to 1.5 million service personnel, including up to 695,000 people serving under contract. This is intended to be achieved by gradually changing the conscription age from 18-27 to 21-30 years with a fast-track option for conscripts to become contract soldiers. The number of military districts was expanded with the addition of the Moscow and Leningrad districts. The number of units was also expanded.<sup>442</sup> Relying on actual combat experience, Putin stated that Russia will pursue "balanced and high-quality development of all components of the Armed Forces" that includes improving the system used for military training.<sup>443</sup>

On the NATO side, its relative capability against Russia over the next decade will depend on transforming NATO's Military Strategy and the concept for the Deterrence and Defence of the Euro-Atlantic Area (DDA) into a set of fully executable plans. This was mandated at the 2022 Madrid Summit and is already underway. Such changes will drive NATO's strategic, domain-specific, and regional defense plans. It will also impact command and control arrangements to reflect better integration of NATO and national military plans; the New Force Model with more ready forces on a standing basis; the New Force Structure regarding the number and types of equipment and

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440 H.I. Sutton, "Russia Increasing Submarine Cruise Missile Capacity as US Navy Decreases Its Own," RUSI (August 19, 2021). <https://rusi.org/explore-our-research/publications/commentary/russia-increasing-submarine-cruise-missile-capacity-us-navy-decreases-its-own>.

441 Ibid.

442 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022).

443 President of Russia, "Congratulations on the occasion of Defender of the Fatherland Day" (February 23, 2023).

organizations required to conduct operations; the modernized exercise program; the NATO Defense Planning Process and creation of a “military sound plans-based” NATO Capability Targets; investments into creating an Integrated Air and Missile Defense posture along the NATO Eastern Flank; further development of the NATO Reinforcement and Sustainment Network with the prepositioning of critical stocks across the entire Alliance; and improvement of NATO’s Military Mobility.<sup>444</sup>

Lastly, what should not be discounted is that any ambitious Russian plan to rebuild its military capability in line with its evolving military doctrine would likely fall short of Russian ambitions. As the reforms made after 2008 did not enable it to fully translate the concepts into real combat capability, the same might be the case over the next decade.<sup>445</sup> This, however, does not necessarily mean that Russia will not be able to make it relative to that made by the Alliance. This would depend on the sense of urgency given by the Alliance to adapt, potentially beyond the steps that are envisaged today.

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444 SACEUR, “MCCS Joint Presser Opening Statement - General Cavoli” (January 19, 2023), <https://shape.nato.int/saceur/mccs-joint-presser-opening-statement-general-cavoli>; SACEUR, “Remarks at Rikskonferensen, Sälen, Sweden,” <https://shape.nato.int/saceur/saceur-cavoli-remarks-at-rikskonferensen--salen--sweden>, <https://shape.nato.int/saceur/saceur-cavoli-cepa-remarks>. For steps taken so far by the United States, see: U.S. Department of Defense, “FACT SHEET - U.S. Defense Contributions to Europe” (June 29, 2022). <https://www.defense.gov/News/Releases/Release/Article/3078056/fact-sheet-us-defense-contributions-to-europe/>.

445 For insightful analysis of Soviet/Russia’s culture of military innovation, see: Dima Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel* (Stanford, CA: Stanford University Press, 2010), pp. 24-57.



# Assessment of the Ability to Manage Escalation of War against NATO

How does Russian leadership assess Russia's ability to manage escalation in a conflict with NATO? How does it assess Russia's ability to inflict a "deterrent" or "unacceptable" amount of damage against the United States and its NATO allies? What progress has Russia made at the strategic and regional level over the last two decades? How has the invasion of Ukraine affected Russian leadership assessments? What opportunities and challenges in managing escalation does Russian leadership perceive in the next decade? To explore the answers to these questions, this chapter will examine how the expansion of Russia's non-nuclear and nuclear capabilities has affected Russia's escalation management options.

## Russian Progress Until 2022

Over the last two decades, Russia has made progress in enhancing and expanding its non-nuclear and nuclear capabilities to manage escalation by threatening to inflict a "prescribed dosage of damage" against NATO allies. Although progress in non-nuclear options was significant, Russia's top priority remained the creation of a more favorable nuclear balance vis-à-vis NATO, in particular the United States. In both non-nuclear and nuclear capabilities, Russia's ability to manage escalation could be postulated by comparing steps taken by Russia to improve its relevant capabilities with the evolution of NATO efforts to negate the options that these capabilities might provide.

### *Progress in Expanding Non-Nuclear Escalation Management Options*

Russia has made efforts to enhance its non-nuclear and non-kinetic strike options, to expand the number of its escalatory options below the nuclear level, and to increase its ability to inflict proscribed levels of damage. These efforts correspond with Russia's doctrinal emphasis on non-nuclear components of "strategic deterrence."<sup>446</sup> As analyzed in the

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446 Kristin Ven Bruusgaard, "Russian Strategic Deterrence," *Survival* 58, no. 4 (2022).

previous chapter, between 2008 and 2022 Russia made significant progress in deploying a wide range of PGMs in a context of relatively limited NATO investments in defensive systems to counter them. Certain capabilities, in particular the dual-capable Zircon and Kinzhal hypersonic missiles and the 9M729/SSC-8 intermediate-range cruise missiles, provided Russia with options to effectively strike a wide range of targets across Europe and in the United States, including options for prompt or covert attack against decisionmaking centers. The Russian military also seemed to envisage a role for ICBMs armed with conventional warheads to inflict deterrent damage in regional war scenarios.<sup>447</sup> For Russian military analysts, “developing and creating fundamentally novel items of long-range fire destruction [which] selective use [would be] comparable to extra low and even low-yield nuclear weapons in terms of efficiency” could provide Russia qualitative superiority over its adversaries.<sup>448</sup>

Even though the primary role of Russian counter-space assets was the functional suppression of U.S. and NATO conventional capabilities in the IPW, Russia saw U.S. dependence on space as its Achilles’ heel. Russia believed threatening U.S. space capabilities could have deterrent effects on the United States. If deterrence failed, counterspace assets could offer Russia’s leadership the ability to manage escalation of conflict through selective targeting of adversary space systems.<sup>449</sup> This is reflected in Russian military writings on conflict escalation ladders that suggest that while counter-space capabilities are likely to be used from the outset of a regional war, certain counter-space options such as attacking missile warning satellites could be reserved for later stages of conflict.<sup>450</sup>

Over the last two decades, Russia significantly improved its “cyber-technical” offensive cyber capabilities to target the United States and allied critical infrastructure.<sup>451</sup> This expanded Russia’s options for inflicting damage

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447 Dave Johnson, “Russia’s Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds,” pp. 39, 57 (reference 11).

448 O.L. Salyukov and A.V. Shigin, p. 97.

449 Defense Intelligence Agency, 2022 *Challenges to Security in Space*, pp. 21-22. [https://www.dia.mil/Portals/110/Documents/News/Military\\_Power\\_Publications/Challenges\\_Security\\_Space\\_2022.pdf](https://www.dia.mil/Portals/110/Documents/News/Military_Power_Publications/Challenges_Security_Space_2022.pdf).

450 Clint Reach, “Book Review...”

451 “FBI says Russian hackers scanning U.S. energy systems and pose ‘current’ threat,” Reuters (March 29, 2022). <https://www.reuters.com/world/fbi-says-russian-hackers-scanning-us-energy-systems-pose-current-threat-2022-03-29/>.

on the adversary “in unorthodox ways”<sup>452</sup> and for causing “irreversible negative effects on national and economic security, health care, [and] law and order” by the targeting of a vast array of vulnerable cyber targets.<sup>453</sup> The shock and devastation resulting from a synergistic application of a set of cyber-technical attacks was also seen by Russian analysts as having the potential to create effects akin to those of nuclear weapons.<sup>454</sup> Russia’s writings on conflict escalation also suggested that cyberattacks could gradually expand from military to civilian targets, and to avoid risk of unintended escalation at least initially would not target strategic and non-strategic nuclear forces and early warning systems.<sup>455</sup>

In all these three areas, NATO recognized the challenges posed by Russia’s growing assets and engaged in efforts to address them and close existing vulnerabilities. Still, there seem to be no indications that these actions affected Russia’s calculus that investments in these capabilities might add to Moscow’s escalation management options in crisis or war.<sup>456</sup>

This does not mean that Russian military analysts were satisfied with the progress. Expressing doubts about Russia’s strategic nonnuclear deterrence capabilities, Russian military experts argued in 2019 that “[S]trategic nonnuclear weapons are not a rational military-economic alternative to nuclear weapons in solving the tasks of global and regional strategic deterrence.”<sup>457</sup>

### ***Progress in Creating a Favorable Nuclear Balance***

While expanding Russian capabilities for nonnuclear strategic deterrence was among leadership priorities over the last two decades, Russia’s primary focus was on creating a favorable nuclear balance. This is underscored by

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452 A.V. Serzhantov, A.V. Smolovy, and I.A. Terentyev, p. 67.

453 Clint Reach, et al., *Russia’s Evolution Toward a Unified Strategic Operation...*, p. 115.

454 Rod Thornton and Marina Miron, “Winning Future Wars: Russian Offensive Cyber and Its Vital Importance in Moscow’s Strategic Thinking,” *The Cyber Defense Review* 7, no. 3 (2022), p. 119. [https://cyberdefensereview.army.mil/Portals/6/Documents/2022\\_summer\\_cdr/09\\_Thornton\\_Miron\\_CDR\\_V7N3\\_Summer\\_2022.pdf?ver=0LhzDv4-cUkzkAqiTz401g%3D%3D](https://cyberdefensereview.army.mil/Portals/6/Documents/2022_summer_cdr/09_Thornton_Miron_CDR_V7N3_Summer_2022.pdf?ver=0LhzDv4-cUkzkAqiTz401g%3D%3D).

455 Clint Reach, “Book Review...”

456 Defense Intelligence Agency, *2022 Challenges to Security in Space*, pp. 21-22. [https://www.dia.mil/Portals/110/Documents/News/Military\\_Power\\_Publications/Challenges\\_Security\\_Space\\_2022.pdf](https://www.dia.mil/Portals/110/Documents/News/Military_Power_Publications/Challenges_Security_Space_2022.pdf); Cybersecurity and Infrastructure Security Agency, *Russia Cyber Threat Overview and Advisories*.

457 Ibid., p. 26.

the personal attention to nuclear matters given by Putin since the beginning of his presidency.<sup>458</sup> His early remarks made in 2000 while advocating the START-2 Treaty's ratification shed light on criteria that he might have used during his presidency to assess Russia's nuclear capability relative to that of the United States. These criteria might also inform his judgement on Russia's progress in strengthening its capability to manage escalation in conflict with the United States and NATO and impose "deterrent" or "unacceptable" levels of damage. These criteria have included:

- Russia's "vested interest" in preserving its "potential for deterrence" by maintaining "the balance of forces"—that is, rough quantitative parity with the United States;
- The importance of qualitative improvements in Russia's strategic nuclear arsenal to secure its retaliatory potential as Russia's nuclear forces are reduced numerically;
- The "indissoluble" linkage between the offensive arms and defensive arms in the Russia-U.S. strategic relationship and the need to counter any negative impact of U.S. missile defense on the credibility of Russia's nuclear forces;
- The importance of not being in a disadvantageous position with regard to any category of non-strategic nuclear weapons;<sup>459</sup> and
- The need to avoid repeating Soviet mistakes and being drawn into a nuclear arms race.

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458 Putin's first trip outside of Moscow after he was elected president in March 2000 was the visit to Snezhinsk – home of the All-Russian Scientific Research Center of Technical Physics (VNIITF). One of his first major presidential initiatives in the Duma was the ratification of the START-2 Treaty. See: President of Russia, "Introductory Remarks at an Expanded Meeting of the Atomic Energy Ministry Board" (March 31, 2000), <http://en.kremlin.ru/events/president/transcripts/21306>; President of Russia, "Speech at a State Duma Meeting to Consider the Ratification of the Treaty Between Russia and the United States on the Further Reduction and Limitation of Strategic Offensive Arms (START-2) and Documents Relating to the May 26, 1972 Treaty Between the USSR and the US on the Limitation of Anti-Ballistic Missiles" (April 14, 2000), <http://www.en.kremlin.ru/events/president/transcripts/statements/21357>.

459 At the time Putin disputed claims about the U.S. advantage in nuclear long-range sea-based cruise missiles as in his assessment, Russia's and the U.S. "deployment possibilities" were "about the same."

One additional criterion that arose since then and has become a part of Russia's thinking about a "new security equation" was the impact of non-nuclear means, including conventional prompt global strike on the credibility of Russia's strategic forces.<sup>460</sup>

*a. Progress in maintaining the quantitative and qualitative strategic balance with the United States*

The need to preserve strategic parity with the United States was one of the rationales of Russia's political-military leaders in signing the New START Treaty that defined the strategic nuclear relationship with the United States in the 2010s. According to the treaty signed in April 2010 that came into effect on February 5, 2018, Russia and the United States were allowed to possess up to:

- 700 deployed intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and heavy bombers (HBs);
- 1,550 warheads on deployed ICBMs and SLBMs and warheads counted for deployed heavy bombers;
- and up to 800 deployed and non-deployed ICBM launchers, SLBM launchers, and heavy bombers.

Since the treaty was signed, the overall trend—in accordance with the agreed limits—was that Russia slightly narrowed the quantitative gap between the number of U.S. deployed and non-deployed delivery vehicles and associated warheads. For example, in March 2011, the difference between Russian and U.S. deployed warheads was 1,537 to 1,800, and the difference between the number of deployed launchers was 521 to 882. In comparison, almost a decade later in March 2022, the quantitative differences between Russia and the United States shrank (with Russia's

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<sup>460</sup> Interfax, "Future Russia-U.S. strategic equation should include nuclear and non-nuclear weapons - Russian deputy FM," Interfax (November 30, 2020). <https://interfax.com/newsroom/top-stories/70491/>.

1,474 deployed warheads compared to 1,515 for the United States, and Russia’s 526 deployed launchers compared to 686 for the United States).<sup>461</sup>

**Table 6. The Size of Russia’s and U.S.’s Strategic Nuclear Forces According to the New START Treaty Data Exchange**

	March 2011		March 2014		March 2018		March 2022	
	Russia	U.S.	Russia	U.S.	Russia	U.S.	Russia	U.S.
Deployed ICBMs, SLBMs and Heavy Bombers	521	882	498	778	527	652	526	686
Warheads on Deployed ICBM and SLBMs, Warheads Counted for Deployed Bombers	1537	1800	1512	1585	1444	1350	1474	1515
Deployed and Non-deployed Launchers and Non-deployed heavy bombers	865	1124	905	952	779	800	761	800

Source:  
<https://www.state.gov/wp-content/uploads/2022/04/March-2022-NST-Aggregate-Numbers-Chart-Factsheet.pdf>.

Over the last two decades, qualitative improvements in Russia’s strategic arsenal, including “survivability and response effectiveness,” were also deemed important by Putin and Russia’s other political leaders to secure the “retaliatory potential” of Russia’s strategic forces.<sup>462</sup> Driven by this goal, Russia made progress in modernizing all three legs of its strategic nuclear triad. As with general purpose forces, Russia’s main criterion for assessing its progress was the percentage of modern systems in the Russian strategic arsenal. This reflected the ambition to replace Soviet legacy systems with their modern equivalents. Between 2008 and 2011, the percentage of advanced missile systems among the strategic nuclear ground forces

461 U.S. Department of State, “New START Treaty Aggregate Numbers of Strategic Offensive Arms of the United States and the Russian Federation, February 2011 – March 2022.” <https://www.state.gov/wp-content/uploads/2022/04/March-2022-NST-Aggregate-Numbers-Chart-Factsheet.pdf>.

462 President of Russia, “Speech at a State Duma Meeting to Consider the Ratification of ... START-2.”

almost doubled—from 13% to 25%.<sup>463</sup> It more than doubled by 2015 to 55% (51 in land forces and 56 in naval forces).<sup>464</sup> The share of modern strategic arms rose to 60% in 2016,<sup>465</sup> 79% in 2017,<sup>466</sup> 82% in 2019,<sup>467</sup> 86% in 2020,<sup>468</sup> 89% in 2021,<sup>469</sup> and 91.3% in 2022.<sup>470</sup>

In Russia's Strategic Rocket Forces, three Soviet-era legacy systems—the silo-based SS-18 Satan (RS-20), SS-19 Mod 3 Stiletto (RS-18) ICBMs, and the road-mobile SS-25 Sickle (RS-12M Topol) ICBM—have been gradually replaced with more modern systems: the SS-27 Mod 1 (RS-12M1 and M2, Topol-M) deployed in 1997–2009, initially in silos and then its road-mobile version; the SS-27 Mod 2 (RS-24 Yars) that reached initial operational capability in 2010 and have been deployed in silos and on road-mobile launchers; the SS-19 Mod 4 Stiletto (RS-18) deployed since 2019 and armed with “Avangard” hypersonic glide vehicle; and a heavy, the silo-based, liquid-propellant Sarmat (RS-28) that was reportedly developed since 2011 and tested for the first time in 2017.<sup>471</sup>

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463 “Prime Minister Vladimir Putin meets with experts in Sarov to discuss global threats to national security, strengthening Russia’s defences and enhancing the combat readiness of its armed forces” (February 24, 2012). <http://archive.premier.gov.ru/eng/events/news/18248/>.

464 President of Russia, “Expanded meeting of Defence Ministry Board” (December 11, 2015).

465 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016).

466 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017).

467 President of Russia, “Defense Ministry Board meeting” (December 24, 2019).

468 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 21, 2020).

469 President of Russia, “Expanded Meeting of the Defence Ministry Board” (December 21, 2021). <http://en.kremlin.ru/events/president/news/67402>.

470 President of Russia, “Meeting of Defence Ministry Board” (December 21, 2022).

471 Defense Intelligence Agency, *Global Nuclear Landscape 2018*, DIA-05-1712-016 (February 2018), pp. 12-14. [https://www.dia.mil/Portals/110/Images/News/Military\\_Powers\\_Publications/Global\\_Nuclear\\_Landscape\\_2018.pdf](https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/Global_Nuclear_Landscape_2018.pdf); Timothy Wright, “Russia’s new strategic nuclear weapons: a technical analysis and assessment,” IISS Analysis (June 16, 2022), <https://www.iiss.org/blogs/analysis/2022/06/russias-new-strategic-nuclear-weapons-a-technical-analysis-and-assessment>.

**Table 7. Evolution of the Russian and U.S. ICBM Force Structure, 2008-2022**

Delivery Vehicle	Max. Upload Capacity	Deployment Type	Quantity			
			2008	2014	2021	2022
SS-18 Satan (RS -20)	10	silo	75	54	46	46
SS-19 Mod 3 Stiletto (RS-18)	6	silo	100	40	Up to 20/ being withdrawn	Up to 20/ being withdrawn
SS-25 Sickle (RS-12M Topol)	1	road-mobile	201	160	18	9
SS-27 Mod 1 (RS-12M1 and M2, Topol-M)	1 <sup>472</sup>	silo and road-mobile	54 (48 silo, 6 road-mobile)	78 (60 silo based; 18 road-mobile)	78 (60 silo based; 18 road-mobile)	78 (60 silo based; 18 road-mobile)
SS-27 Mod 2 (RS-24 Yars) – since 2009	4 <sup>473</sup>	silo and road-mobile/	-	46 (4 silo based; 42 mobile)	171 (18 silo based and 153 road mobile, including 54 Yars-S)	180 (18 silo based; 162 road mobile)
SS-19 Mod 4 Stiletto (RS-18)	1 Avangard HGV	silo	-	-	26 with Avangard HGV	26 with Avangard HGV
Sarmat (RS-28)	15 <sup>474</sup>	silo	-	-	-	First deployment planned in 2023 <sup>475</sup>
<b>Total</b>			430 (223 silo and 207 road-mobile)	378 (158 silo and 220 road-mobile)	339 (150 silo and 189 road-mobile)	339 (150 silos and 189 road-mobile)
<b>U.S. Minuteman III</b>	3 (with single de-ployed)	silo	450	450	400 (in 450 silos)	400 (in 450 silos)

Sources: if not indicated otherwise, *IISS Military Balance* 2009, 2015, 2022, and 2023.

472 According to other sources, Topol-M can be uploaded to six warheads. See: RT-2PM2 Topol-M (SS-27 Mod 1 “Sickle B”), <https://missilethreat.csis.org/missile/ss-27/>.

473 Amy F. Woolf, “Russia’s Nuclear Weapons: Doctrine, Forces, and Modernization,” Congressional Research Service (April 21, 2022), p. 18. <https://sgp.fas.org/crs/nuke/R45861.pdf>. According to the *IISS Military Balance*, the missile can carry ~three warheads. Some sources suggest that it can be uploaded with up to six or even up to 10 warheads. See: Houston T. Hawkins, “Rethinking the Unthinkable,” LA-UR-14-25647, Los Alamos National Laboratory (July 2014), p. 15. <https://permalink.lanl.gov/object/tr?what=info:lanl-repo/lareport/LA-UR-14-25647>.

474 Some experts have estimated it can carry 10 heavy or 15 medium nuclear warheads or 3-5 hypersonic gliders. Mark B. Schneider, “Russian Nuclear Force Expansion and the Failure of Arms Control,” Real Clear Defense (October 24, 2019). [https://www.realcleardefense.com/articles/2019/10/24/russian\\_nuclear\\_force\\_expansion\\_and\\_the\\_failure\\_of\\_arms\\_control\\_114810.html](https://www.realcleardefense.com/articles/2019/10/24/russian_nuclear_force_expansion_and_the_failure_of_arms_control_114810.html). According to DIA it can carry “more than 10 warheads.” See: Lt. Gen. Robert P. Ashley, Jr., Director Defense Intelligence Agency, “Russian and Chinese Nuclear Modernization Trends, Remarks at the Hudson Institute” (May 29, 2019). <https://www.dia.mil/Articles/Speeches-and-Testimonies/Article/1859890/russian-and-chinese-nuclear-modernization-trends/>.

475 “Russia plans to deploy 22 Yars, Avangard, Sarmat ICBM launchers in 2023 — Shoigu,” TASS (December 21, 2022). <https://tass.com/defense/1554023>.



The main upgrade of Russia's sea-based portion of the triad was the deployment of more reliable and quieter Borey class SSBNs armed with the new SS-N-32 Bulava SLBMs. The new submarines replaced the Delta III (Project 667BDR Kalmar) class and Typhoon (Project 941Akula) SSBNs, with the last one of each withdrawn from service in 2022 and 2023.

**Table 8. Evolution of the Russian and NATO Nuclear Weapon States' SSBN Force Structure, 2008-2022**

SSBN Type	SLBM Type	Max. no. of Warheads per SLBMs <sup>476</sup>	Max. no. of SLBMs per SSBN	Number of SSBNs			
				2008	2014	2021	2022
Delta III Project 667BDR Kalmar)	SS-N-18 Mod 1 Stingray (RSM-50)	3	16	6	3	1	-
Delta IV (Project 667BDRM Delfin) Class Submarines	SS-N-23 Skiff (R-29RMU2 Sineva/ R-29RMU2.1 Layner) – IOC in 2007	4 <sup>477</sup>	16	4 (+2 in refit)	6 (including 1 in repair)	6	6
Typhoon (Project 941Akula)	SS-N-20 Sturgeon (RSM-52)/ SS-N-32 BULAVA	10/6	20	2 (+one in reserve)	1 in reserve	1 in reserve	-
Borey (Project 955) and Borey-A (955A)	SS-N-32 BULAVA	6 – 10 <sup>478</sup>	16 for Borey, and 20 for Borey-A <sup>479</sup>	1 (sea trials)	2 (missiles not yet operational)	4 (including 3 Borey and 1 Borey-A)	5
Belogrod	Poseidon (Kanyon) UUVs	N/A	up to six <sup>480</sup>	-	-	sea trials	sea trials
<b>Total</b>				<b>16</b>	<b>13</b>	<b>12</b>	<b>11</b>
U.S. Ohio Class	Trident II (D-5) missiles	12/ 8 with the New START <sup>481</sup>	24/ 20 with the New START <sup>482</sup>	14	14	14	14
UK Vanguard	Trident II (D-5)	12	16	4 <sup>483</sup>	4 <sup>484</sup>	4 <sup>485</sup>	4
French L'Inflexible M4 S 615 and Le Triomphant S 616	M45/ M51	6	16	4 (1 L'Inflexible and 3 Le Triomphant) with M45	4 Le Triomphant (2 with M45 and 2 with M51)	4 Le Triomphant with M51	4

Sources: if not indicated otherwise, *IJSS Military Balance* 2009, 2015, 2022, and 2023.

476 Defense Intelligence Agency, *Global Nuclear Landscape* 2018, p. 14.

477 Other reports suggest that the maximum payload is eight per Sineva and 10 per Liner/Layner. See: Mark B. Schneider, "Russian Nuclear Force Expansion and the Failure of Arms Control."

478 According to other sources, the Borey class SSBNs can carry 16 to 20 new solid-fuel Bulava R-30 SLBMs with a range of over 6,000 miles. Each of these Bulava SLBMs can carry six to 10 individually targeted warheads for a total of up to 200 warheads per submarine. Houston T. Hawkins, p. 15. See also: RSM-56 Bulava (SS-N-32), <https://missilethreat.csis.org/missile/ss-n-32-bulava/#easy-footnote-bottom-7-338>.

479 *IJSS Military Balance* 2014, p. 199.

480 Timothy Wright, "Testing times for Russia's strategic forces," *IJSS Military Balance Blog* (July 9, 2021). <https://www.ijss.org/blogs/military-balance/2021/07/russia-strategic-forces>.

481 "Trident D5," CSIS Missile Defense Project (July 30, 2021). <https://missilethreat.csis.org/missile/trident/>.

482 Ibid.

483 Each SSBN with no more than 48 deployed warheads with the total number of 48 Trident D-5 SLBMs and fewer than 160 operational warheads in UK arsenal. See: *IJSS Military Balance* 2009, p. 158.

484 Each SSBN with no more than 40 deployed warheads. See: *IJSS Military Balance* 2015, p. 148.

485 The deployment practice of deployment practice of no more than eight missiles/40 warheads per boat. See: *IJSS Military Balance* 2015, p. 159.

Of all the legs of the Russian nuclear triad, the actions to recapitalize the strategic bomber force were relatively modest. Russia has been upgrading Tu-95 Bear and Tu-160 Blackjack bombers so they could operate beyond 2030. In 2014, it decided to resume the production of Tu-160M2 bombers with the first flight of a newly built aircraft at the beginning of 2022.<sup>486</sup> Russia has also been developing a new long-range bomber, known as PAK-DA, for some time. The program was launched in 2007 but was revised in 2014 for budgetary reasons. Russia returned to the PAK-DA at the end of 2017, and it is estimated that the first prototype of such aircraft might be flight tested at the earliest in 2024.<sup>487</sup> The effectiveness of the airborne leg of the triad was increased with the deployments of Kh-102 (RS-AS-23 Kodiak) nuclear-armed cruise missiles that entered service in 2012 and were replaced by the Kh-55 ALCM.<sup>488</sup> Russia was also developing its future replacement, a longer-range air-launched missile, known as the Kh-BD (long-range) or Item 506.<sup>489</sup>

Table 9. Evolution of the Russian and U.S. Bomber Force Structure, 2008-2022

Bomber Type	Type of LACM/ gravity bomb	Maximum no. of LACM/Gravity Bombs per aircraft	Number of Bombers			
			2008	2014	2021	2022
Tu-95 Bear (Tu-95MS6 (Bear H-6) and Tu-95MS16 (Bear H-16))	AS-15A/B Kent (KH-55SM/ RKV-500B) / RS-AS-23B Kodiak (Kh-102)	Up to 6 on Bear H-6/ Up to 16 on Bear H-16	64 (32 Bear H-6 and 32 Bear H-16)	62 (31 of each)	60	60
Tu-160 Blackjack (Tu-160M1 or Tu-160M2)	AS-15A/B Kent (KH-55SM/ RKV-500B)/ RS-AS-23B Kodiak (Kh-102)	12	16 (+5 test aircraft)	16	16	16
Total			85	78	76	76
U.S. B-52	AGM-86B nuclear ALCM and/or AGM-129A nuclear ACM / LRSO	20	76 (+ 4 test)	72	46	46
B-2	B-61/B-83	16	19 (+1 test)	20	20	20
Total			100	92	66	66

Sources: *IISS Military Balance* 2009, 2015, 2022, and 2023.

486 *IISS Military Balance* 2023, p. 158.

487 Ibid.; Piotr Butowski, “Russia Pushes Ahead with New Strategic Bomber,” *Aviation Week* (July 29, 2022). <https://aviationweek.com/defense-space/aircraft-propulsion/russia-pushes-ahead-new-strategic-bomber>.

488 *IISS Military Balance* 2013, p. 204.

489 Piotr Butowski, “Russia Pushes Ahead with New Strategic Bomber.”

The deployment of new delivery vehicles was complemented with the development of new warhead designs for strategic systems. These included the Avangard hypersonic glide vehicle and, according to the Defense Intelligence Agency (DIA), new high-yield and earth-penetrating warheads to attack hardened military targets like U.S. or Allied command and control facilities.<sup>490</sup> Another qualitative improvement made by Russia was that the new ICBMs had a greater warhead delivery capacity than the systems they were replacing. For example, the aging single-warhead SS-25 Topol road-mobile ICBM was replaced by the SS-27 Yars that can carry multiple warheads. The Sarmat (RS-28) ICBM also reportedly has greater warhead capacity than the SS-18 Satan it will eventually replace.<sup>491</sup>

Another feature of Russian qualitative improvements was the development of so-called “novel” strategic nuclear capabilities publicly unveiled by President Putin in March 2018. In addition to the Avangard hypersonic glide vehicle and the Sarmat (which was expected to become the main carrier of Avangard), these included the development of a nuclear-armed, nuclear-powered underwater vehicle known as Poseidon (or Status-6 or Canyon) and a nuclear-powered, nuclear-armed intercontinental-range cruise missile called Burevestnik (SSC-X-9 Skyfall). While the Poseidon is still being developed, the Project 09582 special-purpose submarine Belgorod was handed over to the Russian navy in July 2022.<sup>492</sup> The development of Burevestnik has continued despite the number of test failures and the accident at Nenoksa test site in 2019 that killed five Rosatom experts and caused a release of radioactive materials.<sup>493</sup> The eventual addition of these novel capabilities to Russia’s arsenal is intended to add survivability, flexibility, and redundancy to Russia’s strategic

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490 Lt. Gen. Robert P. Ashley, Jr., “Russian and Chinese Nuclear Modernization Trends...”.

491 Ibid.

492 *IJSS Military Balance 2023*, pp. 162-163.

493 Douglas Barrie, Burevestnik, “US intelligence and Russia’s ‘unique’ cruise missile,” *Military Balance Blog* (February 5, 2021), <https://www.ijss.org/blogs/military-balance/2021/02/burevestnik-russia-cruise-missile/>; *IJSS Military Balance 2021*, p. 171; Thomas Nilsen, “New study reveals comprehensive buildup of nuclear missile test-ground at Novaya Zemlya,” *Barents Observer* (September 18, 2022), <https://thebarentsobserver.com/en/security/2022/09/new-study-reveals-comprehensive-buildup-nuclear-missile-test-ground-novaya-zemlya>.

capabilities.<sup>494</sup> It would also potentially further expand Russia's options for imposing "deterrent" and "unacceptable" levels of damage. In particular, Poseidon (with a range of 5,400 nautical miles) seems designed to cause or threaten "unacceptable damage" as, according to DIA, its goal is to "destroy important economic installations of the enemy in coastal areas and cause guaranteed devastating damage to the country's territory by creating wide areas of radioactive contamination, rendering them unusable for military, economic, or other activity for a long time."<sup>495</sup>

The comprehensive buildup of strategic forces was supported by large stockpiles of plutonium and highly enriched uranium available for its nuclear weapon program, as well as a large nuclear weapons infrastructure and a production complex.<sup>496</sup> According to DIA, by 2013, Rosatom had modernized dozens of its experimental facilities, and its budget increased roughly by 30% in real terms from 2010 to 2018 to support weapons processing and other operations. Russia gained the capacity to process thousands of nuclear warheads annually and, if needed, expand it in a emergency situation.<sup>497</sup> Such capacity allowed Russia to maintain a stockpile of nuclear weapons with a constant average age of approximately five years.<sup>498</sup> Russia's development of new warhead designs and overall stockpile management efforts have been enhanced by its robust testing program at Novaya Zemlya and its approach to nuclear testing.<sup>499</sup>

Over the last decade, while Russia's strategic nuclear modernization has been in full swing, the United States has only started embarking on its modernization process, focusing on life extension of its existing nuclear warheads and bombs as well as upgrading deployed delivery vehicles to

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494 Michael Albertson, "Russia's Approach to Stockpile Modernization," in *Stockpile Stewardship in an Era of Renewed Strategic Competition*, Brad Roberts, ed., Center for Global Security Research (Livermore, CA: April 2022), p. 39. [https://cgshr.llnl.gov/content/assets/docs/CGSR\\_Occasional\\_Stockpile-Stewardship-Era-Renewed-Competition.pdf](https://cgshr.llnl.gov/content/assets/docs/CGSR_Occasional_Stockpile-Stewardship-Era-Renewed-Competition.pdf).

495 Defense Intelligence Agency, *Global Nuclear Landscape 2018*, p. 14.

496 For an insightful analysis, see: Michael Albertson, "Russia's Approach to Stockpile Modernization," pp. 40-47.

497 Lt. Gen. Robert P. Ashley, Jr., "Russian and Chinese Nuclear Modernization Trends...," Houston T. Hawkins, p. 14.

498 Houston T. Hawkins, p. 14.

499 Ibid., p. 15; Lt. Gen. Robert P. Ashley, Jr.,... "Russian and Chinese Nuclear Modernization Trends...".

keep them credible.<sup>500</sup> The asymmetry in the modernization timelines led to a situation in which while Russia added new capabilities to its arsenal, the United States relied on “submarines built in the [19]80s and [19]90s... an air-launch[ed] cruise missile built in the [19]80s, intercontinental ballistic missiles built in the [19]70s, a bomber built in the [19]60s,” with “part of ... [the] nuclear command and control that predates the internet, and a nuclear weapons complex that dates back to the Manhattan-[Project] era.”<sup>501</sup> While Russia achieved the ability to take different directions with its future warhead development efforts and put in place (and exercised) the capacity to design and produce weapons at scale, the U.S. production complex remained fragile and comprised of the deployed warheads that are design legacies of the Cold War.<sup>502</sup> The most significant change in the U.S. strategic arsenal over the last two decades was supplementing the strategic triad with the W76-2, a low-yield warhead for the Trident II (D-5) sea-launched ballistic missile recommended by the 2018 Nuclear Posture Review and fielded by February 2020.<sup>503</sup>

While historically the U.S. strategic nuclear forces have been the supreme guarantor of NATO security, these forces are supplemented by the independent strategic nuclear forces of the UK and France, which have had their “own deterrent role.”<sup>504</sup> Reiterating NATO’s traditional approach, the 2016 NATO Warsaw Summit specifically endorsed that “[t]hese Allies’ separate centers of decisionmaking contribute to deterrence by complicating

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500 See more: George Miller, “Stockpile Stewardship: What Were We Thinking? How Did it Work Out?” in *Stockpile Stewardship in an Era of Renewed Strategic Competition*, pp. 6-19.

501 Jason Sherman, “STRATCOM laments aging nuclear forces while managing ‘historic stress’ of Russia-Ukraine war,” *InsideDefense* (March 8, 2022).

502 Michael Albertson, “Russia’s Approach to Stockpile Modernization,” p. 49; George Miller, p. 15; Brad Roberts, “Do the Differences in National Approach Matter?” in *Stockpile Stewardship in an Era of Renewed Strategic Competition*, p. 63.

503 U.S. Department of Defense, “Statement on the Fielding of the W76-2 Low-Yield Submarine Launched Ballistic Missile Warhead” (February 4, 2020). <https://www.defense.gov/News/Releases/Release/Article/2073532/statement-on-the-fielding-of-the-w76-2-low-yield-submarine-launched-ballistic-m/>.

504 NATO, “Active Engagement, Modern Defence Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organisation adopted by Heads of State and Government in Lisbon” (November 19, 2020), par. 18. [https://www.nato.int/cps/en/natohq/official\\_texts\\_68580.htm](https://www.nato.int/cps/en/natohq/official_texts_68580.htm).

the calculations of potential adversaries.”<sup>505</sup> What differentiates the UK and French contribution is that the UK nuclear capability since 1962 has been directly declared to the defense of the Alliance and assigned to NATO, while France has maintained fully independent nuclear forces and has not been a part of NATO’s nuclear planning.

Over the last two decades, the UK has followed a path of further reducing the numbers of its nuclear forces. One example of this was the decision announced in the *2010 Strategic Defence and Security Review* to reduce the number of an overall stockpile from 225 to no more than 180 nuclear warheads by the mid-2020s, and reduce the number of operationally available warheads to 120. The number of operational launch tubes on the Vanguard class SSBN was also reduced from 12 to 8 and the maximum number of warheads deployed on each SSBN was reduced to 40. The 2021 Integrated Review marked the shift in the UK approach, announcing that the 2010 commitments could no longer be met because of negative changes in the security environment such as the developing range of technological and doctrinal threats to the UK’s nuclear deterrence. As a result, becoming the first NATO ally to do so after the end of the Cold War, the UK decided to increase its nuclear stockpile to no more than 260 warheads—that is, over 40% in comparison to the commitment made in 2010. In line with a new policy of not disclosing data, the UK did not announce how many of these 260 warheads would be operationally available.<sup>506</sup> The UK also engaged in efforts to restore its nuclear enterprise, which did not receive sufficient attention by subsequent UK governments.<sup>507</sup>

In comparison, the French approach was more consistent. Since 2008, as revealed by then President Nicolas Sarkozy, France has maintained the arsenal of “less than 300” nuclear warheads. The 80-90% of which were

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505 NATO, Warsaw Summit Communiqué Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Warsaw (July 8-9, 2016), par. 53. [https://www.nato.int/cps/en/natohq/official\\_texts\\_133169.htm](https://www.nato.int/cps/en/natohq/official_texts_133169.htm).

506 Claire Mills, “Nuclear weapons at a glance: United Kingdom. Research Briefing,” House of Commons Library (July 2022), <https://researchbriefings.files.parliament.uk/documents/CBP-9077/CBP-9077.pdf>; UK Defence Nuclear Organisation and Ministry of Defense, “Integrated Review of Security, Defence, Development and Foreign Policy 2021: nuclear deterrent” (April 27, 2021), <https://www.gov.uk/guidance/integrated-review-of-security-defence-development-and-foreign-policy-2021-nuclear-deterrent>.

507 Matthew Harries, “Is the UK capable of maintaining its nuclear arsenal?” Prospect (April 16, 2022). <https://www.prospectmagazine.co.uk/politics/38577/is-the-uk-capable-of-maintaining-its-nuclear-arsenal>.

likely intended for ballistic missiles deployed in French SSBNs.<sup>508</sup> The last of four new generation SSBNs, *Le Terrible*, was commissioned in 2010. Since 2010, France also fully replaced the M45 SLBMs with the M51, which has a greater maximum range and better accuracy. By 2020, the last batch of M51.1 missiles was replaced with their newer version, M51.2.<sup>509</sup>

#### ***b. Progress in Constraining and Countering U.S. Missile Defense***

Over the last two decades, Russian calculations about the credibility of its strategic nuclear forces have been significantly affected by the 2001 U.S. decision to withdraw from the ABM Treaty and subsequent U.S. steps to construct a ballistic missile defense architecture. Russian experts have consistently considered U.S. missile defense “a multipurpose system diversely affecting the military-political and strategic situation”<sup>510</sup> and “as the second echelon of offensive antimissile operations, implementing the concept of prompt global strikes.”<sup>511</sup> The concern expressed by Russian policymakers and military authorities was that in a hypothetical scenario of a U.S. first strike against Russia’s strategic nuclear forces, the U.S. missile defense system would be able to neutralize Russia’s remaining strategic systems. This would increase U.S. confidence in managing escalating crises while limiting Russia’s options for doing so. In addition, some Russian military experts expressed concerns that U.S. missile defenses, even if limited, could constrain Russia’s options to control deterrent damage through limited employment of nuclear weapons at both the regional and the strategic levels. As argued by one of them: “the possibility that U.S. BMD could achieve a limited interception of ballistic missiles in the near future could possibly violate the principle of ‘dosing’ and guaranteed fulfilment of assigned ‘de-escalatory’ activities.”<sup>512</sup>

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508 Bruno Tertrais, *French Nuclear Deterrence Policy, Forces, And Future: A Handbook* (Paris, France: Fondation pour la Recherche Stratégique, February 2020), p. 62. <https://www.frstrategie.org/sites/default/files/documents/publications/recherches-et-documents/2020/202004.pdf>.

509 Ibid., pp. 55-56, 60.

510 V.V. Sukhorutchenko and S.V. Kreydin, “Nuclear Deterrence Amid the Development of a US Global Missile Defense System,” *Military Thought* 31, no. 4 (2022), p. 112.

511 Ibid., p. 112.

512 Dave Johnson, “Russia’s Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds,” p. 74.



For these reasons, the development of the U.S. global missile defense system “necessitated decisive measures to counter it” that would minimize the negative impact of the system on the effectiveness of Russia’s strategic nuclear retaliation.<sup>513</sup> It also required Russia’s efforts aimed at “affect[ing] U.S. decisionmaking on the strategic defense architecture and its operating mode” and ensuring that the U.S. missile defense system remained “a defense system with limited combat capabilities.”<sup>514</sup> To achieve these goals, over the last 20 years, Russia engaged in two streams of activities. First, Russia was involved in diplomatic and information confrontation activities aimed at keeping U.S. plans to develop missile defense systems within a limited framework by containing its potential strategic focus and containing the role of U.S. missile defenses to “blocking nuclear missile threats from third countries.”<sup>515</sup> Second, Russia “proactively” developed military countermeasures to compensate for any “diminished effectiveness of the response of Russia’s nuclear forces in the context of the continued deployment of the U.S. global MD system.”<sup>516</sup>

With regards to the diplomatic efforts, Russia sought to create a link between strategic offensive and defensive arms when agreeing on signing and ratifying the New START Treaty in 2010. The logic behind it resembled Putin’s calculus in 2000 when he linked the ratification of the START II Treaty with the preservation of the ABM treaty. At that time Putin argued that creating such linkage would give the United States the choice to “either be a globally condemned wrecker of the underpinnings of strategic stability embodied in the treaty-based system for the limitation and control of strategic arms, or refrain from deploying a national missile defense system.”<sup>517</sup> What changed by 2010 was that Russia’s new goal to minimize the risk that the United States would eventually deploy the system that would put into question the credibility of Russia’s strategic forces. To reinforce the linkage, after the ratification of New START, Russia’s political leaders made repeated statements in which they threatened either

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513 V. Sukhorutchenko and S.V. Kreydin, p. 113.

514 Ibid., p. 114.

515 Ibid.

516 Ibid.

517 President of Russia, “Speech at a State Duma Meeting to Consider the Ratification of ... START-2.”

suspension or termination of the treaty in response to potential U.S. steps to expand its strategic missile defense capabilities.<sup>518</sup>

In addition, to limit the U.S.'s missile defense plans, Russia engaged in various information confrontation efforts. For example, Russia sought to convince the United States that America's development of missile defense would undermine U.S. national interests, since this effort would create an incentive for Russia to wage a preemptive large-scale nuclear strike if there was a major military confrontation between the two major nuclear powers.<sup>519</sup> Moscow also sought to dissuade the U.S. allies from hosting U.S. missile systems by threatening that agreeing to do so would put these allies on the list of Russia's nuclear targets. To discredit the U.S. plans to deploy missile defense in Europe, Russia also consistently claimed that the kinetic hit-to-kill missile defense interceptors could be replaced with U.S. offensive missile systems.<sup>520</sup>

Russian diplomatic efforts to constrain U.S. missile defenses failed. On the one hand, Russia's consistent rhetoric about the threat posed by U.S. missile defenses framed the policy discussion in Europe and in the United States about the benefits and costs of missile defense. On several occasions, the United States modified its missile defense system in a way that addressed some Russian concerns. For example, in 2009 the United States chose not to deploy 10 ground-based missile defense interceptors in Poland and the X-band radar in the Czech Republic. Even though the United States continued to pursue the deployment of missile defenses in Europe through the European Phased Adaptive Approach (EPAA), in 2013 it decided not to follow through with the fourth phase of the EPAA that envisaged the deployment of more capable SM-3 IIB interceptors.<sup>521</sup> Also, even though the EPAA in 2010 became a part of NATO's territorial missile defense system, all NATO allies including the United States made repeated statements in order to reassure Russia that the Alliance's territorial missile defense

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518 President of Russia, news conference (May 18, 2011). <http://en.kremlin.ru/events/president/news/11259>.

519 V.V. Sukhorutchenko and S.V. Kreydin, pp. 113-114.

520 David Alexander, "Rice says Russian missile shield reaction 'bizarre'" (August 20, 2008). <https://www.reuters.com/article/us-shield-poland-rice/rice-says-russian-missile-shield-reaction-bizarre-idUSN2038784420080820>. Accessed November 17, 2023.

521 Jacek Durkalec, "Modifications of the U.S. Missile Defence Plans in Europe," Bulletin PISM 480, no. 27 (March 2013). [https://www.pism.pl/publications/Modifications\\_of\\_the\\_U\\_S\\_Missile\\_Defence\\_Plans\\_in\\_Europe](https://www.pism.pl/publications/Modifications_of_the_U_S_Missile_Defence_Plans_in_Europe).

system was not directed against Russia and was not designed to undermine Russia's strategic forces.<sup>522</sup>

On the other hand, the changes in the U.S. missile defense architecture in Europe resulted primarily from financial, technological, threat assessment, and political considerations not directly related to Russia. While modifications in the U.S. missile defenses might be interpreted as goodwill gestures to assure Russia, this did not seem to be the main driver for these decisions. Despite its efforts, Moscow failed to secure U.S. agreement on legally binding constraints on U.S. missile defense systems that would include "specific military-technical criteria that will enable Russia to judge to what extent U.S. and NATO actions in the missile defense area correspond to their declarations and steps, whether our interests are being impinged on, and to what extent the strategic nuclear balance is still intact."<sup>523</sup> Russia also failed to influence the architecture of the U.S. missile defenses in Europe through its threats against NATO allies or diplomatic initiatives aimed at imposing in one way or another, technological, geographic, and quantitative limits on the U.S. missile defense systems in Europe, including prohibition of the deployment of U.S. missile defense capabilities "in close proximity to Russia's borders and in the neighboring waters."<sup>524</sup>

Russia's successes seem more apparent regarding military countermeasures to the U.S. missile defenses than with diplomatic approaches. The most comprehensive list of such measures was presented by President Medvedev in his address delivered in November 2011. The "asymmetrical"<sup>525</sup> military responses included threats of retargeting Russia's missiles at U.S. missile defense sites in Europe;<sup>526</sup> deployment

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522 See, for example: NATO, "Deterrence and Defence Posture Review," press release 063 (May 20, 2012), para. 21, [https://www.nato.int/cps/en/natohq/official\\_texts\\_87597.htm](https://www.nato.int/cps/en/natohq/official_texts_87597.htm); "Brussels Summit Communiqué, Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Brussels" (June 14, 2021), para. 44, [https://www.nato.int/cps/en/natohq/news\\_185000.htm](https://www.nato.int/cps/en/natohq/news_185000.htm).

523 President of Russia, "Statement in connection with the situation concerning the NATO countries' missile defence system in Europe" (November 23, 2011). <http://en.kremlin.ru/events/president/transcripts/13637>.

524 President of Russia, "Statement in connection with... missile defence system in Europe."

525 President of Russia, "Transcript of Press Conference with the Russian and Foreign Media" (February 1, 2007). <http://en.kremlin.ru/events/president/transcripts/24026>.

526 President of Russia, "Transcript of Annual Big Press Conference" (February 14, 2008). <http://en.kremlin.ru/events/president/transcripts/24835>.

of “offensive weapon systems in the west and south of the country”—including Iskander missiles in Kaliningrad—to ensure Russia’s ability “to take out any part of the U.S. missile defense system in Europe;”<sup>527</sup> strengthening “protective cover” over Russia’s strategic capabilities through developing “air and space defenses;”<sup>528</sup> equipping its own strategic missiles “with advanced missile defense penetration systems and new highly-effective warheads;”<sup>529</sup> and developing “measures for disabling missile defense system data and guidance systems.”<sup>530</sup> The political objective set by the Russian president in 2012 was for Russia to implement the stated response “by 2017–2018.”<sup>531</sup>

By 2022, Russia seemed to succeed in deploying all stated countermeasures: it deployed 13 battalions of Iskander-M short-range ballistic missiles including in the Kaliningrad Oblast and Crimea that have in range U.S. missile defense sites in Poland and Romania; it expanded the option to target critical military assets in Europe, including missile defense sites, with other long-range dual-capable precision strike systems; it modernized its own strategic missile defense with the deployment of more capable interceptors defending Moscow and initial deployments of S-500 air and missile defense systems intended to be capable of intercepting ICBMs; and it also strengthened the air defense protection of its strategic forces. In addition, Russia equipped its strategic systems, starting with the Topol-M ICBM, with countermeasures against U.S. missile defense interceptors. According to Russia’s military experts, these countermeasures included:

- “Reducing the signatures of ballistic missiles in flight and the height and range of the flight trajectory during the active phase;
- Countering optoelectronic reconnaissance assets and functionally defeating MD [missile defense] space echelon optoelectronic reconnaissance assets;

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527 President of Russia, “Statement in connection with... missile defence system in Europe.”

528 Ibid.

529 Ibid.

530 Ibid.

531 President of Russia, “Expanded meeting of the Defence Ministry Board” (March 20, 2012).

- Providing strategic ballistic missile warheads with anti-missile capabilities, including spaceborne maneuvering; [and]
- Employing anti-satellite assets to destroy MD data support spacecraft.”<sup>532</sup>

The “novel” nuclear delivery vehicles presented by Putin in March 2018 also provided Russia’s leadership new options in overcoming U.S. missile defense in all scenarios—from a scenario of imposing limited “deterrence” damage through a single strike on U.S. territory to a scenario of inflicting “unacceptable” damage on the United States following the first U.S. nuclear strike.

While Russia acquired a whole set of missile defense countermeasures, the capabilities of the U.S. missile defense systems only slightly changed. The Ground-based Midcourse Missile Defense System (GMD) was designed to protect the U.S. homeland against limited ICBM attacks from North Korea and potentially Iran but also potentially against limited ballistic missile attacks from any source. Since 2004 it has consisted of a fleet of 44 Ground-Based Interceptors (GBIs) deployed at Fort Greely, Alaska, and Vandenberg Air Force Base in California. While the United States planned to expand the number of GBIs by 20 to 64 total deployed interceptors by 2023, the plan was delayed, and the new timeline is unclear.<sup>533</sup> The United States also encountered significant delays with the development of the New Generation Interceptor with deliveries of these new interceptors set for 2028.<sup>534</sup> U.S. missile defense capabilities in Europe did not expand beyond the three phases of EPAA. The projected establishment of a missile defense site in Poland, originally planned for 2018, is expected to be completed in 2023.<sup>535</sup>

The capability that expanded in the most significant way were U.S. BMD-capable Aegis ships. The number of BMD-capable Navy Aegis ships

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532 V.V. Sukhorutchenko and S.V. Kreydin, p. 114.

533 United States Government Accountability Office, “MISSILE DEFENSE Delivery Delays Provide Opportunity for Increased Testing to Better Understand Capability,” GAO-19-387 (June 2019). <https://www.gao.gov/assets/gao-19-387.pdf>.

534 Vice Admiral Jon A. Hill, U.S. Navy, Director, Missile Defense Agency, “[Testimony] Before the Senate Armed Services Committee Strategic Forces Subcommittee” (May 18, 2022), p. 7. <https://www.armed-services.senate.gov/imo/media/doc/Hill%20Statement%20to%20SASC.pdf>.

535 Ibid., p. 8.

grew from 24 at the end of FY2011<sup>536</sup> to 38 at the end of FY2018, and to a projected fleet of 50 by the end of FY2023.<sup>537</sup> In 2020, the United States tested the capability of SM-3 IIA missiles launched from U.S. Aegis destroyer against ICBMs.<sup>538</sup> The U.S. officials also hinted at efforts to make the missile capable of countering more complex ICBM threats.<sup>539</sup> In June 2022, the Biden administration announced that two additional BMD-capable Aegis destroyers would be homeported at Rota, Spain with an unofficial target date set by the Navy for 2025 or 2026. This would increase a total number of Aegis destroyers deployed in Europe to four.<sup>540</sup>

The increase in the U.S. Aegis missile defense capabilities has remained a matter of concern for Russia's experts. While expressing confidence about Russia's ability to overcome the U.S. midcourse defense systems, they tend to portray "existing and prospective U.S. MD seaborne echelon assets as well as various means of implementing concepts for developing its air- and spaceborne echelons" as most concerning. Particularly worrisome is the possibility of the United States using these capabilities to intercept Russia's missiles during the ascent and terminal phases of their flight trajectories. For these capabilities, the countermeasures envisaged by Russia's experts include the deployment of Russian strategic nuclear launchers beyond the missile interception zones and negating effective operations of the U.S. missile defense systems through nuclear forces or "highly effective nonnuclear weapons, including hypersonic and antisatellite weapons."<sup>541</sup>

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536 Ronald O'Rourke, "Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress," Congressional Research Service, RL33745 (October 17, 2013), p. 8. <https://apps.dtic.mil/sti/pdfs/ADA590248.pdf>.

537 Ronald O'Rourke, "Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress," Congressional Research Service, RL33745 (December 21, 2022), p. 6. <https://sgp.fas.org/crs/weapons/RL33745.pdf>.

538 U.S. Department of Defense, "U.S. Successfully Conducts SM-3 Block IIA Intercept Test Against an Intercontinental Ballistic Missile Target" (November 17, 2020). <https://www.defense.gov/News/Releases/Release/Article/2417334/us-successfully-conducts-sm-3-block-ii-a-intercept-test-against-an-intercontinen/>.

539 "MDA Planning Second Test of SM-3 IIA Against ICBM Target," Defense Daily (May 17, 2021). <https://www.defensedaily.com/mda-planning-second-test-sm-3-ii-a-icbm-target/missile-defense/>.

540 Ronald O'Rourke, "Navy Aegis Ballistic Missile Defense (BMD) Program..." (December 21, 2022), p. 7.

541 V.V. Sukhorutchenko and S.V. Kreydin, p. 114.

### c. Progress in Countering the U.S. Prompt Global Strike

Over the last two decades, Russia has consistently expressed concerns that U.S. Prompt Global Strike capabilities could threaten the survivability of Russia's strategic nuclear weapons. They have argued that "a massive hit from thousands or tens of thousands of missiles of different basing on critical facilities," including strategic nuclear forces, would mean to "immediately enter a state of military 'knockdown' or even 'knockout.'"<sup>542</sup> The original concerns about the conventionally-armed Trident II (D-5) ballistic missiles were replaced with concerns about the U.S. plans to "deploy several tens of thousands of sea- and air-launched cruise missiles near Russia's borders" in conjunction with "the possible deployment of intermediate-range and shorter-range missiles and strike weapons at U.S. missile defense facilities in Europe,"<sup>543</sup> ground-launched INF-range weapons after America's withdrawal from the INF Treaty,<sup>544</sup> and most recently U.S. investments in hypersonic weapon systems. The perceived threats to Russian strategic missile forces were reinforced by concerns about "the comprehensive space reconnaissance conducted by foreign states," which, according to Russian analysts, showed that the assets of Russia's Strategic Missile Forces "can be discovered."<sup>545</sup>

Russian concerns led to the development of countermeasures that supplemented (and were supplemented by) Russia's efforts to counter a perceived threat from U.S. missile defenses. Some specific countermeasures considered by Russian military analysts included:

- Enhancing the capabilities of Russian intelligence services to provide prompt and reliable information and prevent "a sudden hypermassive strike by the adversary;"<sup>546</sup>

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542 Maj. Gen. V.V. Kruglov (Ret.), Col. A.S. Shubin, p. 43.

543 Ibid.

544 O.L. Salyukov and A.V. Shigin, "The Role and Place of the Ground Forces in Strategic Deterrence," *Military Thought* 30, no. 2 (2021), p. 94.

545 R.O. Nogin, "Threats to Assets of Strategic Missile Forces From Aerospace Assault Weapons Strikes," *Military Thought*, p. 157.

546 Maj. Gen. V.V. Kruglov (Ret.) and Col. A.S. Shubin, p. 43.

- Assigning air defense assets and forces to formations of strategic missile forces to improve their training to conduct defensive operations and restore combat capability in emergency situations;
- Taking advantage of EW tactics such as neutralization and suppression of adversary's high precision weapons support, navigation, and guidance systems;
- Creating anti-access and area denial (A2AD) zones and taking other measures to prevent the entry of foreign long-range high-precision weapons into strike areas;<sup>547</sup>
- Ensuring greater effectiveness of launch under attack or retaliatory strike of strategic missile forces;<sup>548</sup>
- Improving the characteristics and tactics of Russia's strike missile systems to react to and preempt an adversary's missile strike, including during combat and operational training.<sup>549</sup>

Despite the progress that was made by the Russian armed forces, the assessment of Russia's military analysts was that Moscow needs to find new ways to increase the survivability of Russia's strategic nuclear forces against an adversary's "aerospace assault weapon strikes."<sup>550</sup> The concerns about such attacks might explain Russia's efforts to constrain the geographic deployments of the U.S. BMD Aegis cruisers and destroyers that, in addition to missile defense interceptors, could be armed with Tomahawk sea-launched cruise missiles. This also might be an additional Russian rationale for trying to prevent deployments of U.S. ground-launched intermediate range systems in Europe or Asia.

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547 R.O. Nogin, p. 158.

548 Ibid.

549 Maj. Gen. V.V. Kruglov (Ret.) and Col. A.S. Shubin, p. 44.

550 R.O. Nogin, p. 158.



#### *d. Progress in Maintaining a Favorable Regional Nuclear Balance*

Over the last two decades, Russia has enjoyed a quantitative and qualitative regional nuclear advantages vis-à-vis NATO. This traces back to the U.S. 1991/1992 Presidential Nuclear Initiatives (PNI) and subsequent NATO decisions to unilaterally reduce the number of remaining U.S. nuclear gravity bombs deployed in Europe by more than 97% in comparison to the Cold War peak.<sup>551</sup> Russia, in contrast, initially implemented its PNI commitments, but abandoned the effort by the end of 1990s.<sup>552</sup>

According to available estimates, Russia possesses up to 2,000 non-strategic nuclear warheads and variety of delivery systems.<sup>553</sup> They include artillery systems, short-range ballistic missiles, antiship and antisubmarine missiles, torpedoes, depth charges, and air defense systems. Russia has been modernizing and further diversifying this arsenal over the last decade by adding new military capabilities, increasing accuracy and ranges, and lowering yields.<sup>554</sup> New capabilities include nuclear-capable long-range missiles such as the 500 km range ground-launched Iskander-M (9K723-M/SS-26 Stone) ballistic and Iskander-K (9M729/SSC-7 Southpaw) cruise missiles; the INF-range ground-launched 9M729/SSC-8 Screwdriver cruise missile; a 2,500 km range sea-launched Kalibr cruise missiles; Kinzhal (Kh-37M2) air-launched ballistic missiles with a range of 2000 to 3000 km; and sea-launched hypersonic Tsirkon (SS-N-23) missiles with a range of about 1,000 km. To diversify available non-strategic options, Russia expanded the ranges of the weapon yields through the development of very low-yield

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551 *Report of the Secretary of Defense Task Force on DOD Nuclear Weapons Management. Phase II: Review of the DoD Nuclear Mission* (December 2008), p. 59. [https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/DOD\\_NW\\_Management\\_Phase\\_II\\_Schlesinger.pdf](https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/DOD_NW_Management_Phase_II_Schlesinger.pdf).

552 For a comprehensive analysis, see: David S. Yost, "Russia's Non-Strategic Nuclear Forces," *International Affairs* 77, no. 3 (2001).

553 U.S. Department of Defense, *2018 Nuclear Posture Review* (February 2018), p. 53. <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

554 Lt. Gen. Robert P. Ashley, Jr., "Russian and Chinese Nuclear Modernization Trends...," Roy Boone et al., "The Challenge Of Russia's Non-Strategic Nuclear Weapons," National Strategic Research Institute at the University of Nebraska (October 29, 2021), p. 9, <https://nsri.nebraska.edu/-/media/projects/nsri/docs/academic-publications/2021/october/The-Challenge-of-Russias-NSNW.pdf>.

warheads (with nuclear yields of the order of hundreds of tons) and ultra-low-yield nuclear warheads (with nuclear yields of the order of tens of tons).<sup>555</sup>

The investments made by Russia in its non-strategic nuclear forces enhanced the utility of these forces in performing traditional functions in Russia's approach to deterrence, warfighting, and escalation management. They strengthened the contribution of non-strategic nuclear forces to deterring external aggression and compensated for Russia's shortcomings in conventional military capability to avoid defeat. Qualitative and quantitative improvements in Russia's non-strategic arsenal improved Moscow's ability to preserve "combat stability"—that is, the ability of general-purpose forces to accomplish assigned missions under the conditions of adversary's counteractions—by deterring an enemy from "escalating" its military operations to a higher level of violence. The readiness of these forces and the flexibility of their employment enhanced Russian options to "de-escalate" conventional conflict—that is, by convincing the United States and NATO allies to reconsider their plans and accept terminating the conflict on Russia's terms. With a wide array of non-strategic nuclear weapons, Russia expanded its options to conduct limited nuclear strikes in a regional war while avoiding an escalation to strategic or global nuclear conflict with the United States. Modernized Russian non-strategic nuclear weapons also added to Russia's flexible options of limited and large-scale nuclear attacks against the United States. The qualitative and quantitative advantage in non-strategic nuclear forces also added to Russia's options for "diplomatic gesticulation" in crisis to inhibit the intervention of the United States and NATO in local conflicts with third parties involving Russia.<sup>556</sup>

While Russia has been putting greater emphasis on its non-strategic nuclear weapons since the early 2000s, NATO has been going in the opposite direction. Following the U.S retirement of the nuclear version of Tomahawk (TLAM-N) in 2010, the regional nuclear capabilities available to NATO were limited to the B-61 nuclear gravity bombs delivered by dual-capable aircraft. Even though NATO allies could rely on the contribution of

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555 Roy Boone et al., p. 6. See also: Christopher Yeaw, "The Escalatory Attraction Of Limited Nuclear Employment For Great Power Competitors of The United States," National Strategic Research Institute at the University of Nebraska (October 26, 2021). <https://nsri.nebraska.edu/-/media/projects/nsri/docs/academic-publications/2021/October/Escalatory-Attraction-of-Limited-Nuclear-Employment.pdf>.

556 David S. Yost, "Russia's Non-Strategic Nuclear Forces," pp. 534-538.

the French air-delivered nuclear forces to overall deterrence (two squadrons and one flotilla of Rafale aircraft armed with medium-range air-to-ground missile - ASMPA), French weapons have not been assigned to NATO and have not been a part of the NATO nuclear planning process. This has limited the reliance on the whole Alliance on these systems for collective deterrence.<sup>557</sup>

Even though the United States decided in the 2010 Nuclear Posture Review to modernize the B-61 and make the F-35 nuclear capable, the Alliance has focused largely on maintaining its internal consensus for further basing of U.S. nuclear weapons in Europe while seeking to further reduce the role of nonstrategic nuclear weapons in NATO's deterrence posture.<sup>558</sup> Russia refused any confidence-building measures on non-strategic nuclear weapons in Europe. It instead sought to galvanize its regional nuclear advantage by stirring the Alliance to favor a unilateral withdrawal of the U.S.'s nuclear weapons in Europe. For example, it made any discussions on confidence-building measures or arms control related to Russian non-strategic nuclear weapons contingent upon the return of the B61 nuclear gravity bombs back to the United States.

NATO's approach has changed gradually since 2014, when Russia used direct and indirect nuclear threats to back up its initial aggression against Ukraine. Russian aggressive nuclear rhetoric and actions awakened the Alliance to the nuclear challenges posed by Moscow. A NATO consensus consolidated around the belief that nuclear sharing arrangements with U.S. weapons based in Europe was an important element of NATO's deterrence posture. Between 2014 and 2022, the Alliance embarked on a nuclear adaptation process involving changes in nuclear declaratory policy and steps to enhance the operational effectiveness of the nuclear sharing arrangements. Measures included increasing the readiness and survivability of the dual capable aircraft (DCA) force, improving the realism

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557 See more: Bruno Tertrais, "French Nuclear Deterrence Policy, Forces, And Future: A Handbook" (Paris, France: Fondation pour la Recherche Stratégique, February 2020), pp. 58-60. <https://www.frstrategie.org/sites/default/files/documents/publications/recherches-et-documents/2020/202004.pdf>.

558 On NATO's post-Cold War nuclear trajectory, see: Jacek Durkalec, *The 2018 U.S. Nuclear Posture Review, NATO's Brussels Summit and Beyond* (Livermore, CA: Center for Global Security Research, June 2018), pp. 4-7.

of training and exercises, and strengthening coherence between nuclear and conventional capabilities and concepts.<sup>559</sup>

Although NATO has made progress relative to 2014, it can be argued that it has been insufficient relative to Russian advancements over the same time period. Steps taken by NATO to enhance nuclear sharing arrangements have been slow and incremental. They have lacked a sense of urgency. Many decisions to adapt nuclear sharing arrangements to new requirements proved difficult to implement. The United States and NATO have not established concepts for de-escalation and war termination to counter potential Russian nuclear use. Even though the United States enhanced its contribution to regional deterrence by creating a regularized strategic bomber presence in Europe and by deploying the low-yield W76-2 warhead, these steps did not fully demonstrate collective resolve.<sup>560</sup> Despite the progress made by NATO between 2014 and 2022, there was still a perception of an “assurance and deterrence gap” in Europe vis-à-vis Russia.<sup>561</sup>

As assessed in 2021 by the Institute of Defense Analysis, the perception of a non-strategic nuclear balance that is favorable to Russia could impact Russian, U.S., and allied decisionmaking. First, Russian decisionmakers may assess that they have more options for regional nuclear conflict, ones that provide advantageous nuclear employment with manageable escalation risks. Second, Russian decisionmakers may assess that Russia can take advantage of greater operational readiness and closer conventional-nuclear integration in a contest of nuclear brinkmanship. Third, Russian decisionmakers may calculate that the costs of limited regional nuclear war are bearable and to Russia’s advantage, creating incentives for them to take

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559 NATO, *The Secretary’s General Annual Report 2010*, p. 31, [https://www.nato.int/nato\\_static\\_fl2014/assets/pdf/2021/3/pdf/sgar20-en.pdf](https://www.nato.int/nato_static_fl2014/assets/pdf/2021/3/pdf/sgar20-en.pdf); Robert G. Bell, *NATO Nuclear Burden-Sharing Post-Crimea: What Constitutes “Free-Riding”? A Dissertation Submitted to The Faculty of The Fletcher School of Law and Diplomacy In Candidacy for the Degree of Doctor of Philosophy* (June 2021), p. 17.

560 Jacek Durkalec, “NATO strategy to counter nuclear intimidation,” in NDC Research Paper No.10, *Recalibrating NATO Nuclear Policy*, Andrea Gilli, ed. (June 2020), <https://cgsr.llnl.gov/content/assets/docs/Recalibrating-NATO-Nuclear-Policy.pdf>; Brian Radzinsky, et al., “De-Escalation and War Termination In Multi-Domain Regional Wars - Workshop Summary” (May 2021), Center for Global Security Research, [https://cgsr.llnl.gov/content/assets/docs/DEWT\\_Workshop\\_Summary.pdf](https://cgsr.llnl.gov/content/assets/docs/DEWT_Workshop_Summary.pdf); Jacek Durkalec et al., “Anticipating the Next Chapter in U.S. Nuclear Deterrence Strategy - Workshop Report,” Center for Global Security Research (November 2022), pp. 16-18, <https://cgsr.llnl.gov/content/assets/docs/CGSR-Workshop-Summary-Nov2022.pdf>.

561 Adm. Charles Richard, “Speech to the 2022 Space and Missile Defense Symposium,” U.S. Strategic Command (August 11, 2022). <https://www.stratcom.mil/Media/Speeches/Article/3126694/2022-space-and-missile-defense-symposium/>.

nuclear risk and if necessary, conduct nuclear strikes. Lastly, the United States and NATO allies may assess that perceived Russian regional nuclear advantages are important, affecting their own resolve to stand against Russian nuclear coercion in crisis or war.<sup>562</sup>

#### *e. Progress in Nuclear Campaigning*

To implement its strategic deterrence campaign, Russia has engaged in activities over the past decade aimed at influencing perceptions of political, military, and scientific elites, as well as societies of NATO member states about nuclear risks resulting from confronting Russia. These efforts encompassed a wide array of activities such as the publication of doctrinal documents; press conferences and briefings of Russia's officials; television documentaries, videos, and talk shows; news feeds; social networks; treaties, agreements, and conferences; military-theoretical works, monographs, and articles; and military exercises, as well as hoaxes and misinformation.<sup>563</sup> Russia's propensity and proficiency in demonstrating the risks of the risks and the costs of nuclear confrontation with Russia correlated with the progress of nuclear modernization. The intensity of Russia's nuclear signals correlated with periods of heightened tensions between Russia and the West.

The initial aggression against Ukraine in 2014-2015 is a primary example. Russian military actions on the ground, including the use of "little green men" (i.e., Russian troops without insignia) to take control and annex Ukrainian Crimea were accompanied by explicit and implicit nuclear threats, including statements of Putin and other officials, large-scale nuclear exercises, strategic bomber flights, and Russian media propaganda.<sup>564</sup> What marked Russia's greater confidence in waging a nuclear messaging campaign was that these activities radically contrasted with a lack of a visible nuclear dimension of the 2008 war against Georgia or the fact

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562 William Chambers, John K. Warden, Caroline R. Milne, and James A. Blackwell, "An Assessment of the U.S.-Russia Nonstrategic Nuclear Balance," IDA Paper P-14248, Institute for Defense Analyses (January 2021), pp. 13-17. <https://www.ida.org/-/media/feature/publications/a/an/an-assessment-of-the-us-russia-nonstrategic-nuclear-weapons-balance/p-14248.pdf>.

563 V.A. Kalganov, G.B. Ryzhov, and I.V. Solovyov, p. 36.

564 Jacek Durkalec, "Nuclear-Backed 'Little Green Men': Nuclear Messaging in the Ukraine Crisis, PISM Report" (July 2015). <https://pism.pl/upload/images/artykuly/legacy/files/20165.pdf>.

that the nuclear threats issued by President Yeltsin during the NATO 1999 intervention in Kosovo were quickly backtracked by Russian officials.<sup>565</sup>

Russian efforts to “influence the cognitive space” of NATO allies have also been signified by the more elaborate listing of conditions in which Russia might resort to the use of nuclear weapons. The 2010 and 2014 Military Doctrines stipulated two conditions: 1) in response to the use of nuclear and other types of weapons of mass destruction against Russia and/or its allies, and 2) in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy/under threat.<sup>566</sup> The 2020 “Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence,” in contrast, specifies two additional conditions:

- Arrival of reliable data on a launch of ballistic missiles attacking the territory of the Russian Federation and/or its allies;
- Attack by an adversary against critical governmental or military sites of the Russian Federation, disruption of which would undermine nuclear forces response actions.<sup>567</sup>

These additional conditions directly respond to key themes in Western nuclear debate. The first additional condition refers to the concept of a so-called “reciprocal counterstrike” elaborated by Putin on several earlier occasions in 2018, seemingly as a direct response to the 2018 U.S. Nuclear Posture decision to deploy the low-yield SLBM.<sup>568</sup> In line with this concept, any launch of the U.S. ballistic missiles, including LY SLBMs, against targets in Russia would automatically lead to Russia’s nuclear

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565 “Yeltsin’s war warning,” *The Guardian* (April 9, 1999). <https://www.theguardian.com/world/1999/apr/09/balkans12>.

566 “The Military Doctrine Of The Russian Federation,” approved by the President of the Russian Federation on December 25, 2014, no. Pr.-2976, par. 27, [https://london.mid.ru/en/press-centre/gb\\_en\\_fnapr\\_1947/](https://london.mid.ru/en/press-centre/gb_en_fnapr_1947/); “The Military Doctrine of the Russian Federation” approved by Russian Federation presidential edict on February 5, 2010, par. 22, [https://carnegieendowment.org/files/2010russia\\_military\\_doctrine.pdf](https://carnegieendowment.org/files/2010russia_military_doctrine.pdf).

567 The President of the Russian Federation, “Executive Order: Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence” (June 8, 2020), par. 18, [https://archive.mid.ru/en/web/guest/foreign\\_policy/international\\_safety/disarmament/-/asset\\_publisher/rp0fiUBmANaH/content/id/4152094](https://archive.mid.ru/en/web/guest/foreign_policy/international_safety/disarmament/-/asset_publisher/rp0fiUBmANaH/content/id/4152094).

568 President of Russia, “Meeting of the Valdai International Discussion Club” (October 18, 2018), <http://www.en.kremlin.ru/events/president/news/58848>; President of Russia, “Annual news conference” (December 20, 2018).

retaliation. Given that it would be impossible for Russia to know in advance whether the United States is using low-yield or another type of warhead, this means that this strike could be disproportional, heightening the risks for the United States in employing this weapon against Russia. The second additional condition could be interpreted as an effort to deter the United States and NATO allies from conducting cyberattacks against the information and command-control system of Russian strategic forces.<sup>569</sup> In a broader sense, it might be interpreted as an effort to exploit Western concerns over entanglement of nuclear and non-nuclear systems in order to limit NATO's conventional campaign in a direct military conflict with Russia.

Russia's diplomatic campaign to reaffirm the 1985 Reagan-Gorbachev statement that "a nuclear war cannot be won and must never be fought" can also be viewed in this light. One of a series of bilateral and multilateral statements made with the United States in 2021, the statement highlighted risks of nuclear confrontation to a Western audience.<sup>570</sup> Russia's interpretation of the statement confirms this hypothesis. According to stated Russian logic, "any military confrontation between the nuclear powers must be prevented, as it is fraught with catastrophe."<sup>571</sup> Therefore, the United States and other NATO allies should avoid any steps that may aggravate the relationship with Russia, as these steps may lead to nuclear war. This contrasts with the Western interpretation implying that even when fighting the war, the opposing side should refrain from using nuclear weapons for warfighting purposes as such a war would be mutually catastrophic and likely lead to all-out nuclear exchange.

Over the last decade, Russian doctrinal documents have increasingly discussed the role of non-strategic nuclear weapons in escalation management. In particular, the *2017 Fundamentals of the State Policy of*

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569 Aleksey Arbatov, "The Ukrainian crisis and strategic stability," *Polis. Political Studies* 4 (October 31, 2022), <https://russiancouncil.ru/en/analytics-and-comments/analytics/the-ukrainian-crisis-and-strategic-stability/>.

570 "U.S.-Russia Presidential Joint Statement on Strategic Stability" (June 16, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/16/u-s-russia-presidential-joint-statement-on-strategic-stability/>; "Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races," (January 3, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/>; "Inadmissibility of nuclear war is Moscow's 'principled stance' – Lavrov," TASS (April 25, 2022), <https://tass.com/politics/1442961>.

571 "Russia's foreign minister calls on West for maximum restraint 'in order to minimize nuclear risks,'" CNN (December 28, 2022), [https://www.cnn.com/europe/live-news/russia-ukraine-war-news-12-27-22/h\\_7b876bcf4e2b0d561ed7d1274f61f334](https://www.cnn.com/europe/live-news/russia-ukraine-war-news-12-27-22/h_7b876bcf4e2b0d561ed7d1274f61f334).

*the Russian Federation in the Field of Naval Operations for the Period until 2030* stated that “during the escalation of military conflict, demonstration of readiness and determination to employ non-strategic nuclear weapons capabilities is an effective deterrent.”<sup>572</sup> The document also pointed out the potential warfighting role of these weapons. One of the indicators of the effective implementation of the State Policy was “the capability of the Navy to damage an enemy’s fleet at a level not lower than critical with the use of non-strategic nuclear weapons.”<sup>573</sup> Russia’s progress over the next decade in demonstrating “the readiness and resolve of the Russian Federation” to use nuclear weapons<sup>574</sup> is also exemplified by more blunt nuclear threats against the United States and its allies, both private and public.<sup>575</sup>

Facing growing Russian nuclear intimidation, NATO allies since 2014 began to improve its counter-intimidation strategy and to engage in different forms of public messaging of its confidence in facing Russian nuclear risks. This applies to statements made by the United States, France, and the UK—the three NATO nuclear weapon states—and statements made by the Alliance as a whole. Still, steps taken by NATO by 2022 seemed insufficient. Russia remained convinced that its nuclear campaign aimed at directly or indirectly “intimidating and warning” NATO leaders, elites, and the public would provide Russia with desired advantages.

### ***Progress in Determining the Appropriate Dosage of Deterrent Damage***

While Russia has developed a vast array of nuclear and non-nuclear capabilities over the last two decades to inflict deterrent and unacceptable damage against potential adversaries, Russian military researchers point out that more should be done to determine the objective levels of these categories of damage when planning strategic deterrence. In their view,

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572. *Fundamentals of the State Policy of the Russian Federation in the Field of Naval Operations for the Period until 2030*, approved by Decree of the President of the Russian Federation July 20, 2017, no. 327, par. 37. [https://digital-commons.usnwc.edu/rmsi\\_research/2/](https://digital-commons.usnwc.edu/rmsi_research/2/).

573. *Ibid.*, par. 51.

574. The President of the Russian Federation, “Executive Order: Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence,” par. 10.

575. “‘Yes, He Would’: Fiona Hill on Putin and Nukes,” *Politico* (February 28, 2022), <https://www.politico.com/news/magazine/2022/02/28/world-war-iii-already-there-00012340>; “Putin boasts military might with animation of Florida nuke strike,” *CNN* (March 2, 2018), <https://www.cnn.com/2018/03/01/europe/putin-nuclear-missile-video-florida/index.html>.



it was insufficient that “the level of deterring damage is determined by a political decision of the military-political leadership.”<sup>576</sup> For this reason, more “thorough and high-quality elaboration” is essential as strategic deterrence “should be based on a fairly well formalizable cognitive (mental) model adopted to explain actions in relation to targets of deterrence.”<sup>577</sup> “A correct scientific substantiation of the level of deterring damage” should apply to damage inflicted by military capabilities such as strategic and nonstrategic nuclear weapons and long-range high-precision weapons; nonmilitary assets and methods; and also the combination of applying different military and non-military measures.<sup>578</sup> In the view of Russian military experts, moving into this direction requires “regular comprehensive military-political games on basic digital gaming platforms with the participation of both military and civilian specialists hosted by the RF National Defense Control Center.”<sup>579</sup> The above recommendations correspond to concerns expressed by Western experts that Russian political leadership may underestimate NATO’s cohesion and resolve to respond to Moscow’s efforts to apply a deterrent dosage of damage to induce de-escalation. While attempts to “sober but not enrage” the United States and its allies might induce the desired restraint, such actions might unleash a reply far beyond what Russia contemplated.<sup>580</sup>

There are identified structural problems that hinder Russia’s implementation of overall strategic deterrence measures and the effective application of deterrent damage. According to Russian observers, there was “no single body handling current and future planning of global and regional deterrence measures, neither is there a body performing the functions of operational control, monitoring, and coordination of respective measures.” Such a body, in their view, was needed given a lack of a “well-functioning system of interaction of federal executive bodies with the RF Ministry of Defense and high-quality information support.”<sup>581</sup> To solve this problem, they

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576 V.A. Kalganov, G.B. Ryzhov, and I.V. Solovyov, p. 37.

577 Ibid.

578 Ibid., p. 38.

579 Ibid., p. 39

580 Brian Radzinsky et al., “De-Escalation and War Termination in Multi-Domain Regional Wars,” workshop summary, Center for Global Security Research (May 25-26, 2021). [https://cgshr.llnl.gov/content/assets/docs/DEWT\\_Workshop\\_Summary.pdf](https://cgshr.llnl.gov/content/assets/docs/DEWT_Workshop_Summary.pdf).

581 V.A. Kalganov, G.B. Ryzhov, and I.V. Solovyov, pp. 37-38.

suggest assigning responsibility for the oversight and operational control of strategic deterrence measures to the National Defence Control Center.<sup>582</sup>

## **Russian Leadership Assessments of Progress Until 2022**

In assessing Russia's progress towards strengthening its escalation management options, it is noteworthy that Russian leadership has focused their public remarks over the last two decades primarily on the contribution of nuclear capabilities, in particular with respect to the strategic nuclear balance with the United States. While they referred to non-nuclear strategic capabilities, including conventional precision-guided munitions and weapons based on new physical principles, these references were not as frequent and not as detailed as compared to nuclear capabilities. Assessment is complicated, however, by the fact that these public remarks were likely intended to influence not only internal discourse, but also international audiences. As part of broader information confrontation efforts, at least some of the statements made by Russian leadership might be specifically designed to mislead Western audiences about Russian capabilities. Historically, leadership in Moscow also tended to overhype Russian qualitative and quantitative nuclear advances to look like “the world’s no. 1” in numbers and types of nuclear weapons—as well as to compensate for other perceived weaknesses. The “bomber gap” and “missile gap” controversies derived from deliberate Soviet efforts to foster such perceptions. Putin himself touted the example set by Nikita Khrushchev’s Cold War nuclear missile brinkmanship, which in his view convinced the United States and NATO that “Nikita is best left alone.”<sup>583</sup> Still, while the Russian leadership statements should be seen critically, the changes in Russian leaders’ rhetoric and greater propensity to use nuclear threats backed by the expansion of capabilities could indicate their changing confidence to leverage nuclear risks to Russia’s advantage.

Russian leadership statements also suggest that Moscow has looked at long-term trends when assessing Russia’s relative position vis-à-vis the United States—and shaped Russia’s strategic position accordingly. For example, when Putin called for the ratification of the START II Treaty in 2000,

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582 Ibid., p. 39.

583 President of Russia, “Meeting of the Valdai International Discussion Club” (October 24, 2014). <http://en.kremlin.ru/events/president/news/46860>.

he argued that ratification would be in Russia's interest. Without limiting the U.S. arsenal, he explained that by 2010 Russia's nuclear arsenal would have "1/15th the potency" of the U.S. arsenal. From his perspective, the START II Treaty was the most cost-effective way of preserving nuclear parity with the United States at a time when developing and organizing "the production of new intercontinental heavy missiles...[required]... a series of full-scale research and development programmes lasting at least seven to 10 years... and substantial investments."<sup>584</sup> Similarly, the 2010 New START Treaty set "the strategic balance and the parity" between Russian and U.S. strategic forces "for the coming years."<sup>585</sup> The treaty allowed Russia to address disparities with the United States that existed before it came into force. In the framework of the New START Treaty limits, over the last decade Russia's officials highlighted quantitative and qualitative progress made by Russia in improving its strategic capabilities.

With regards to quantitative progress, Putin boasted in 2012 that "the strategic nuclear forces are being built up ahead of schedule," highlighting that "from 2008 to 2011 alone ... 39 intercontinental ballistic missiles were delivered to the forces."<sup>586</sup> In 2017, summarizing progress made since 2012, Putin hinted that the annual production rate tripled to more than 30 missiles annually as during these five years Russia's Armed Forces acquired 80 ICBMs and 102 SLBMs.<sup>587</sup> This included 41 new ballistic missiles in 2016 alone.<sup>588</sup> In the 2020s, the delivery rate of new ICBMs was around 20 missiles annually with the delivery of 22 Yars and Avangard ballistic missiles in 2020;<sup>589</sup> 13 in 2021,<sup>590</sup> 21 among the Yars, Avangard, and Sarmat in 2022; and 22 planned for 2023.<sup>591</sup>

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584 President of Russia, "Speech at a State Duma Meeting to Consider the Ratification of ... START-2."

585 President of Russia, "Ratification of new START Treaty" (January 28, 2011). <http://en.kremlin.ru/events/president/transcripts/10175>.

586 "Prime Minister Vladimir Putin meets with experts in Sarov..."

587 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2017).

588 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 22, 2016).

589 President of Russia, "Defense Ministry Board meeting" (December 24, 2019).

590 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 21, 2020).

591 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022).

With regards to qualitative progress, Putin closely observed the increasing share of modern strategic arms within Russia's overall arsenal. Highlighting the country's achievements, he stated that the progress in modernization strategic nuclear forces made until 2020 surpassed the standards of the Soviet Union, when the share of modern equipment in the strategic and nuclear forces was between 65 - 70%. By 2020, the percentage was substantially higher than the 35% figure at the beginning of his presidency in 2000.<sup>592</sup> As nuclear modernization advanced, Russian leadership consistently expressed confidence in their strategic nuclear forces. With further improvements, however, Russian leaders started to more openly highlight their perceived qualitative advantages vis-à-vis the United States. This became especially visible with the development and deployment of "novel" nuclear capabilities unveiled by Putin in March 2018.

*"... the nuclear deterrent and missiles [are] our absolute priority and we have funded that programme 100%, just like the General Staff has asked. And we have the results: we have formed nine regiments with 39 ballistic missiles. In that sense we are even a step ahead of our American partners: they have yet to modernize and build their new strategic missiles. They used to say that what we have was all rusted iron, but now their weapons are perhaps older than ours. We are slightly ahead already. I am not entertaining any illusions and I don't want to engage in saber-rattling claiming that we have overtaken them—we have not, but in that segment we are a little bit ahead, half a step ahead of them."*<sup>593</sup>

**Vladimir Putin, 2012**

*"Our strategic nuclear forces have been maintained at a level that makes it possible to guarantee nuclear deterrence."*<sup>594</sup>

**Vladimir Putin, 2015**

*"I talked about strengthening the nuclear triad and in conclusion said that the Russian Federation was stronger than any potential—and this is key—aggressor...we have put a lot of effort into modernizing Russia's nuclear*

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592 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 21, 2020).

593 "Prime Minister Vladimir Putin meets with experts in Sarov..."

594 President of Russia, "Expanded meeting of Defence Ministry Board" (December 11, 2015).

*missile potential, and our Armed Forces. This also applies to our Strategic Missile Forces... our sea-based forces... This also applies to our air forces... So why are current U.S. officials suddenly claiming that they are the strongest and the most powerful?"*<sup>595</sup>

**Vladimir Putin, 2016**

*"The nuclear triad significantly improved as it plays a key role in maintaining global parity... These weapons will multiply the potential of our army and navy, thus reliably and absolutely ensuring Russia's security for decades ahead... Serious, breakthrough steps have been made in the development of the unique state-of-the-art weapons that I mentioned in my Address to the Federal Assembly on March 1... These weapons are consolidating the balance of forces and, thus, international stability... I hope our new systems will provide food for thought to those who are used to militaristic and aggressive rhetoric."*<sup>596</sup>

**Vladimir Putin, 2018**

*"... we were forced to respond by developing new weapons systems that could breach these ABM systems. Now, we hear that Russia has gained an advantage. Yes, this is true. So far, the world has no such weapons systems. Leading powers will develop them, but, as yet they do not exist. In this sense, there are certain advantages. But, speaking of the entire strategic balance, this is just an element of deterrence and for equalizing parities. This is just the preservation of parity, and nothing more."*<sup>597</sup>

**Vladimir Putin, 2018**

*"We were always catching up... Today, we have a unique situation in our new and recent history. They try to catch up with us. Not a single country possesses hypersonic weapons, let alone continental-range hypersonic weapons."*<sup>598</sup>

**Vladimir Putin, 2019**

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595 President of Russia, "Vladimir Putin's annual news conference" (December 16, 2016).

596 President of Russia, "Defence Ministry Board meeting" (December 18, 2018).

597 President of Russia, "Annual news conference" (December 20, 2018).

598 President of Russia, "Defense Ministry Board meeting" (December 24, 2019).

*"...Russia will maintain its nuclear capability at the level it deems appropriate. It is true that with a number of strategic weapons, our country has left other leading military powers far behind. As I said, this is the first time in history that our country, Russia, is not catching up, but producing weapons that are years or even decades ahead of similar foreign systems. Some of our weapons are second to none in the world, and this will probably be the case for a long time to come... we do not intend to get drawn into an all-consuming arms race... we have all the necessary strategic forces to reliably secure Russia's interests."*<sup>599</sup>

**Vladimir Putin, 2020**

*"Our approximate parity with the United States regarding both delivery vehicles and the number of nuclear warheads remains, but we are definitely the leader in terms of advanced developments... In this sense, it is possible to say confidently that in this regard we are the world's no. 1 today."*<sup>600</sup>

**Vladimir Putin, 2021**

Since the U.S. withdrawal from the ABM Treaty, Russian political leaders expressed concerns that the U.S. ballistic missile defense system could "nullify" Russia's nuclear and missile capabilities<sup>601</sup> and upset the strategic balance by giving the United States "hands free to use whatever types of weapons it likes" to "dictate their will to all."<sup>602</sup> These concerns largely reflected assessments of the prospective U.S. missile defense capabilities. For example, when presenting Russia's list of countermeasures to U.S. missile defense, then-President Medvedev underscored in 2011 that Russia will not agree to be a part of a program "that in a short while, in some six to eight years' time could weaken our nuclear deterrent capability."<sup>603</sup>

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599 President of Russia, "Meeting with senior Defence Ministry officials, heads of federal agencies and defence industry executives, Sochi" (November 10, 2020). <http://en.kremlin.ru/events/president/news/64392>.

600 "Russia-U.S. parity in nuclear warheads, delivery vehicles remains, but Russia world's No. 1 in developments – Putin," Interfax (Russia) (December 12, 2021).

601 President of Russia, news conference (December 20, 2012). <http://en.kremlin.ru/events/president/news/17173>.

602 President of Russia, "Plenary session of the 12th annual meeting of the Valdai International Discussion Club" (October 25, 2015).

603 President of Russia, "Statement in connection with... missile defence system in Europe." See also: President of Russia, "Presidential Address to the Federal Assembly" (March 1, 2018). <http://en.kremlin.ru/events/president/news/56957>.

Similarly, as he was presenting the results of Russia's progress on developing countermeasures to the U.S. system, Putin underlined his concerns in March 2018:

Despite our numerous protests and pleas, the American machine has been set into motion, the conveyor belt is moving forward. There are new missile defense systems installed in Alaska and California; as a result of NATO's expansion to the east, two new missile defense areas were created in Western Europe: one has already been created in Romania, while the deployment of the system in Poland is now almost complete. Their range will keep increasing; new launching areas are to be created in Japan and South Korea. The U.S. global missile defense system also includes five cruisers and 30 destroyers, which, as far as we know, have been deployed to regions in close proximity to Russia's borders. I am not exaggerating in the least; and this work proceeds apace.<sup>604</sup>

Strikingly, Russian leadership concerns about future U.S. missile defense capabilities contrasted with their consistent confidence about Russia's ability to overcome existing U.S. missile defenses. Since the United States began to deploy the ground-based midcourse missile defense system (GMD) on its territory, Putin underscored that it could be overcome with the quantity and quality of Russia's strategic missiles. For example, previewing the Avangard system in 2006, Putin publicly boasted that Russia was developing "a new missile system that as yet has no equivalent anywhere else in the world" and will make missile defense powerless as it "operate[s] at hypersonic speed and can change ... [its] trajectory both in terms of course and altitude..." and "can deliver a nuclear warhead."<sup>605</sup> In 2007, he underscored that Topol-M missiles, the first type of modern ICBMs to replace the Soviet missiles, were equipped with systems that can penetrate

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604 President of Russia, "Presidential Address to the Federal Assembly" (March 1, 2018).

605 President of Russia, "Transcript of the Press Conference for the Russian and Foreign Media" (January 31, 2006), <http://en.kremlin.ru/events/president/transcripts/23412>; President of Russia, "Transcript of Press Conference with the Russian and Foreign Media" (February 1, 2007).

U.S. missile defense.<sup>606</sup> In 2016 he reported that nuclear triad systems were improved with “the means to break through missile defense” and that Russia’s strategic triad was “much more effective than missile defense.”<sup>607</sup> In 2018, Putin stated that “Russia has developed, and works continuously to perfect, highly effective but modestly priced systems to overcome missile defense” and that such systems “are installed on all of our intercontinental ballistic missile complexes.”<sup>608</sup> The confidence to overcome U.S. missile defense systems seemed to be further strengthened with the development of novel nuclear capabilities, each of them with unique capabilities to overcome missile defense systems.

In their public remarks, Russian decisionmaking primarily focused on the Russian-U.S. strategic nuclear balance. There was little discussion of UK and French nuclear forces, their contribution to overall NATO deterrence posture, and their impact on the overall nuclear balance. This is despite the fact that since the beginning of his presidency, Putin insisted on the need for preserving Russia’s capability to “destroy any enemy ... with full guarantee at any moment and in any corner of the globe... even if ... [Russia’s leaders] have to engage several nuclear powers at the same time.”<sup>609</sup> After the New START Treaty was signed in 2010, the discourse about UK and French nuclear forces by Russian officials and experts focused predominantly on the need of inclusion of these two countries in any future follow-on agreement that would lead to deeper nuclear cuts as such agreement should be multilateral by design.<sup>610</sup> In the early 2020s, inclusion of these two NATO countries into any strategic arms control discussions became part of the Russian counternarrative to U.S. efforts to bring China into such discussions.<sup>611</sup> Despite the large disparities in size with the Russian arsenal, Russian officials noted the UK’s decision to

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606 President of Russia, “Transcript of Press Conference with the Russian and Foreign Media.”

607 President of Russia, “Vladimir Putin’s annual news conference” (December 16, 2016).

608 President of Russia, “Presidential Address to the Federal Assembly” (March 1, 2018).

609 President of Russia, “Speech at a State Duma Meeting to Consider the Ratification of ... START-2.”

610 Alexey Arbatov, James M. Acton, and Vladimir Dvorkin, “Prospects of Engaging the United Kingdom and France in Nuclear Arms Control,” Carnegie Endowment for International Peace (April 30, 2014). <https://carnegieendowment.org/2014/04/30/prospects-of-engaging-united-kingdom-and-france-in-nuclear-arms-control-pub-55616>.

611 “Russia’s priority is to involve UK, France in future nuclear arms control talks — diplomat,” TASS (June 26, 2020). <https://tass.com/politics/1172109>.



increase the size of the overall British nuclear arsenal, complaining that it “harms international stability and strategic security” and that Moscow would take this decision into account in its military planning.<sup>612</sup>

While Putin focused largely on highlighting capabilities of Russia’s strategic nuclear forces, he also referred to the value of Russia’s non-strategic nuclear weapons. In 2012, when asked about the circumstances under which Russia would agree to cut the arsenal of these weapons, he was adamant that “...we are not going to give up any of the things that we need... We will only give up what encumbers us and does not bring any benefits... As for what we need and does not burden us, but on the contrary, offers certain guarantees, we are not going to give it up.”<sup>613</sup> With the development and deployment of Russia’s long-range precision guided missiles, Putin purposefully underlined that the new Russia’s systems such as Kalibr and KH-101 can be equipped with “special nuclear warheads.”<sup>614</sup> He praised Kinzhal and Zircon dual-capable systems as unique as “nobody else has them yet.”<sup>615</sup> He also claimed that characteristics of certain systems, in particular the high speed of Zircon hypersonic missiles deployed on submarines and surface ships, gave Russia’s certain advantages over NATO allies, including the United States:

They should look where these weapons will be deployed... they will be sea-launched either from submarines or surface ships... Nobody can prohibit warships and submarines from navigating in neutral waters... So, make your calculations. At a speed of Mach 9, these missiles can strike a target more than 1,000 km away... Just compare, the flight time to Moscow is between 10 and 12 minutes. How long would it take to reach the decisionmaking centers that are creating threats to us? The calculation is not in their favor, at least, not today. This is obvious.... If they create threats to us, they should be aware of the potential consequences,

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612 “Russia warns UK nuclear arsenal plan harms global security,” DW (March 17, 2021). <https://www.dw.com/en/russia-warns-uk-nuclear-arsenal-plan-harms-global-security/a-56899852>.

613 “Prime Minister Vladimir Putin meets with experts in Sarov...”

614 President of Russia, “Meeting with Defence Minister Sergei Shoigu” (December 8, 2015).

615 President of Russia, “Defence Ministry Board meeting” (December 18, 2018).

so that they will not accuse us of unnecessary aggressiveness or whatever later...<sup>616</sup>

Occasionally, Russian officials have made public statements related to the U.S. non-strategic weapons based in Europe. They pointed out the plans of the United States and NATO to modernize these capabilities. For example, in 2016 Russian Defense Minister Shoigu stated that “The United States is implementing a program to upgrade nuclear aerial bombs and storage facilities in Europe...[t]hese actions create additional risk for Russia...”<sup>617</sup> In 2019 he claimed that the readiness level of NATO dual-capable aircraft (DCA) “will be cut from 10 days to 24 hours.”<sup>618</sup> Still, when referring to U.S. non-strategic nuclear weapons based in Europe, Russia’s officials mostly used their presence and modernization plans instrumentally to justify Russia’s own buildup,<sup>619</sup> and criticize the United States for “aggressive behavior,”<sup>620</sup> “instigating arms rac[ing],”<sup>621</sup> and U.S. noncompliance with the NPT Treaty. Russian criticism of these weapons rested primarily in their political value for NATO and their relative proximity to Russian borders. Russian officials did not express concerns about the military value of these weapons similar to concerns about the U.S. missile defense or long-range precision strike.

Over the last decade, Russian leaders expressed concerns that the United States is ahead, especially in high-precision weaponry. In their view, U.S. precision-guided weapons “combined with the time of delivery to an intended target become comparable with weapons of mass destruction” and “in the future, probably, will be no different from weapons of mass destruction.”<sup>622</sup> In 2017, Putin complained about U.S. attempts to upset strategic parity via “conventional attack systems” that “[i]n terms of strike power and accuracy

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616 President of Russia, “Meeting with representatives of Russian news agencies and print media” (February 20, 2019). [http://en.kremlin.ru/events/president/transcripts/community\\_meetings/59865](http://en.kremlin.ru/events/president/transcripts/community_meetings/59865).

617 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016).

618 President of Russia, “Defense Ministry Board meeting” (December 24, 2019).

619 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016).

620 President of Russia, “Annual news conference” (December 18, 2014). <http://en.kremlin.ru/events/president/news/47250>.

621 President of Russia, “Vladimir Putin’s annual news conference” (December 16, 2016).

622 “Prime Minister Vladimir Putin meets with experts in Sarov...”

... are hardly inferior to nuclear arms” and “create the illusion of a potential unpunished strike.”<sup>623</sup> Putin and other Russian officials accused the United States of an intention to covertly deploy medium-range Tomahawk missiles on Aegis Ashore missile defense sites in Europe. When taking into account U.S. capabilities in Asia, this would mean “there could be as many as 150–300 missiles of this kind with a 2,400 kilometer range close to the Russian border.”<sup>624</sup> Russian officials were also concerned about the potential development of U.S. ground-launched long-range missiles in Europe and Asia following the U.S. withdrawal from the INF Treaty.

Still, Russian leaders expressed growing confidence about the contribution of Russia’s non-nuclear strike capabilities to its overall posture. In 2017, Shoigu stated that “the role of nuclear weapons in deterring a potential aggressor will diminish, primarily thanks to the development of precision weapons.”<sup>625</sup> Hinting to greater Russia’s confidence in its non-nuclear deterrence capabilities, Gerasimov stated that “the role of non-nuclear weapons with a long range, high accuracy, and the power of combat equipment is growing” and that “[t]heir use makes it possible to solve tasks that could previously only be accomplished with the use of nuclear weapons.”<sup>626</sup> Similarly, Shoigu stated in 2021 that “The potential of non-nuclear deterrence forces, primarily, precision weapons, is being strengthened.” And that “hypersonic systems of various basing will comprise their backbone.”<sup>627</sup>

With the demise of the INF Treaty, Russian leaders expressed confidence in Russia’s capability to “respond adequately and rapidly” to potential missile threats from the West through deployment of own offensive systems.<sup>628</sup> For example, Putin hinted in 2018 at the possibility of deployment of the ground-launched versions of existing Russia’s sea- and

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623 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017).

624 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2016).

625 Vladimir Isachenkov, “Russia to rely increasingly on non-nuclear deterrent,” AP (February 21, 2017). <https://apnews.com/article/990e176ac1ed47f38a4339885dea32bb>.

626 “Chief of the General Staff of the Russian Armed Forces, General of the Army Valery Gerasimov holds briefing for foreign military attaches, 24.12.2020.” [http://eng.mil.ru/en/news\\_page/country/more.htm?id=12331668@egNews](http://eng.mil.ru/en/news_page/country/more.htm?id=12331668@egNews).

627 “Hypersonic weapons to comprise backbone of Russia’s conventional deterrence forces,” TASS (February 9, 2021). <https://tass.com/defense/1254191>.

628 President of Russia, “Expanded meeting of the Defence Ministry Board” (December 22, 2017).

air-launched weapons.<sup>629</sup> In 2020, he emphasized that Russia will take all response measures in the shortest possible timeframe and for this purpose Russia will be doubling the number of existing long-range precision strike weapons.<sup>630</sup> Russian leadership was also confident in its country's capability to develop "advanced weapons with new physical properties." In his March 2018 presidential address, Putin claimed that Russia has "every reason to believe" that it is one step ahead "in the most essential areas"—in particular, deploying laser weapons with which "Russia's defense capacity has multiplied."<sup>631</sup> The overall growing confidence of Russia's leadership in exploiting escalation risks to Moscow's advantage seemed to be also signified by their increasing propensity to issue nuclear threats, including directly to the United States as in case of implicit nuclear threats conveyed by Putin to then-President Trump.<sup>632</sup>

## **Impact of the Invasion Against Ukraine**

When invading Ukraine in February 2022, Russia sought to play on escalation fears to influence the outcome and course of the "special military operation." To deter NATO direct intervention in the conflict—as well as influence the Western support to Ukraine through supplies of arms—it sought to leverage the risk of escalation of a local war with Ukraine into a direct NATO-Russia clash and potential nuclear standoff. As a way of preparing the conditions for success in wartime, Russia preceded the invasion with signaling to NATO. For example, on February 7 during a press conference with French President Macron, Putin threatened that if NATO would be pulled into a conflict with Russia, "you won't even have time to blink your eye when you execute Article 5."<sup>633</sup> Russia also rescheduled its regular large-scale nuclear exercises Grom to February 19, five days before the incursion into Ukraine. The exercises were overseen by Putin and involved tests of all legs of Russia's strategic triad and the full range of

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629 President of Russia, "Defence Ministry Board meeting" (December 18, 2018).

630 President of Russia, "Expanded meeting of the Defence Ministry Board" (December 21, 2020).

631 President of Russia, Presidential Address to the Federal Assembly (March 1, 2018).

632 "'Yes, He Would': Fiona Hill on Putin and Nukes."

633 "Russia's warning on nuclear war reminds world 'there's a worse outcome,' says expert," Inews (February 10, 2022). <https://inews.co.uk/news/world/russias-warning-nuclear-war-reminds-world-theres-worse-outcome-says-expert-1453240>.

nuclear-capable theater systems, including the Iskander, Kalibr, Kinzhal, and Tsirkon missiles.<sup>634</sup>

While announcing “the special military operation” on February 24, Putin warned that in case of Western interference, “Russia will respond immediately, and the consequences will be such as you have never seen in your entire history...All the necessary decisions in this regard have been taken.”<sup>635</sup> In the same speech he underlined that “Russia remains one of the most powerful nuclear states” and that “it has a certain advantage in several cutting-edge weapons.”<sup>636</sup> Even more ominously, he used the wording from Russia’s nuclear doctrine by stating that the United States and its allies’ policy of confronting Russia “is not only a very real threat to our [Russia’s] interests but to the very existence of... state and to its sovereignty.”<sup>637</sup> To reinforce his warnings, three days later, on February 27, Putin ordered to put Russia’s “deterrence forces” on an “enhanced combat duty.”<sup>638</sup>

Russia’s attempts to exploit risks of escalation to its advantage were also tailored to the changing situation on the ground in Ukraine. On April 27, in the context of failure of Russia’s plans to take Kyiv, Western outrage following discovery of Russian war crimes, and increased Western military supplies to Ukraine, Putin emphasized bluntly that

...if anyone intends to intervene from the outside and create a strategic threat to Russia that is unacceptable to us, they should know that our retaliatory strikes will be lightning-fast. We have the tools we need for this, the likes of which no one else can claim at this point. We will not just brag; we will use them if necessary.”<sup>639</sup>

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634 “Putin to oversee strategic drills on February 19 from situation control center — Kremlin,” TASS (February 18, 2022). <https://tass.com/defense/1405845>.

635 President of Russia, “Address by the President of the Russian Federation” (February 24, 2022).

636 Ibid.

637 Ibid.

638 President of Russia, “Meeting with Sergei Shoigu and Valery Gerasimov” (February 27, 2022). <http://en.kremlin.ru/events/president/transcripts/67876>.

639 President of Russia, “Meeting with Council of Lawmakers” (April 27, 2022). <http://en.kremlin.ru/events/president/news/68297>.

Reiterating earlier statements, he emphasized that “we have made all the decisions on this matter.”<sup>640</sup>

On September 21, 2022, while announcing “partial military mobilization” and expressing support to incorporating four Ukrainian regions to Russia, Putin underlined that Russia “has different types of weapons as well, and some of them are more modern than the weapons NATO countries have.” He noted “in the event of a threat to the territorial integrity of our country and to defend Russia and our people, we will certainly make use of all weapon systems available to us. This is not a bluff.”<sup>641</sup>

In February 2023, reacting to growing deliveries of Western military equipment, including tanks to Ukraine, Putin stated

...those who are hoping to defeat Russia on the battlefield, apparently fail to understand that a modern war against Russia will be a completely different war for them. We do not send our tanks to their borders but we have what to respond with, and it is not limited to the use of armor. Everyone must realize this.<sup>642</sup>

Warning the West about supplying long-range weapons to Ukraine, Putin emphasized that “the longer the range of the Western systems that will be supplied to Ukraine, the further we will have to move the threat away from our borders.”<sup>643</sup> Demonstrating the negative impact on the U.S. and Western support to Ukraine on the Russia-U.S. nuclear relationship, Putin took decision to “suspend” Russia’s participation in the New START Treaty, the move that was originally listed in 2011 by then-President Medvedev as a potential response to U.S. missile defense. Claiming that “some politicians in Washington are already pondering live nuclear tests” and that “the United States is developing innovative nuclear weapons,” Putin ordered the Russian Defence Ministry and Rosatom to “make everything

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640 Ibid.

641 “Address by the President of the Russian Federation” (September 21, 2022). <http://en.kremlin.ru/events/president/news/69390>.

642 President of Russia, “Gala concert for 80th anniversary of defeating German Nazi forces in Battle of Stalingrad” (February 2, 2023). <http://en.kremlin.ru/events/president/transcripts/70434>.

643 President of Russia, “Presidential Address to Federal Assembly” (February 21, 2023). <http://en.kremlin.ru/events/president/transcripts/70565>.

ready for Russia to conduct nuclear tests.”<sup>644</sup> Using this as a justification of this move, Putin also pointed out that “Britain and France also have nuclear arsenals... are developing and upgrading them and these arsenals are also directed against... Russia” and that their arsenals are part of NATO’s “combined offensive capabilities.”<sup>645</sup>

To highlight growing nuclear risks in Europe, Russian, and Belarusian officials announced in April 2023 that Russian non-strategic nuclear weapons will be deployed in Belarus and Belarusian troops will be trained to deliver these weapons via aircraft and the Iskander-M ballistic missile system.<sup>646</sup>

Throughout the entire conflict, warnings made by Putin were reinforced by other Russian officials, including former Russia’s president and deputy chairman of Russia’s Security Council Dmitry Medvedev, foreign minister Sergey Lavrov, Kremlin spokesperson Dmitry Peskov, and Russian state television propaganda. For example, they sought to exploit the 60th anniversary of the Cuban missile crisis to remind the U.S. public about the risks and consequences of global nuclear war with Russia.<sup>647</sup> In addition to issuing nuclear threats against the West, statements of Russian decisionmakers hinted at the possibility of Russian nuclear use against Ukraine. The concerns become especially high in autumn 2022 following the Ukraine counteroffensive that liberated a significant portion of territories that Russia declared to be new parts of its territory. At that time, Russian officials doubled down on false claims made since the beginning of the conflict that Ukraine was building a dirty bomb and accused Ukraine of preparing for its deployment. Russian officials claimed that new territories would be under “full protection” of the state, including “any Russian

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644 Ibid.

645 Ibid.

646 “Iskander system capable of carrying nuclear missiles transferred to Belarus — Shoigu” (April 4, 2023), <https://tass.com/defense/1599025>; “Belarusian crews depart for training on Iskander-M system in Russia” (April 4, 2023), <https://tass.com/defense/1598971>.

647 Anna Clara Arndt and Liviu Horowitz, “Nuclear rhetoric and escalation management in Russia’s war against Ukraine: A Chronology,” SWP (September 3, 2022). [https://www.swp-berlin.org/publications/products/arbeitspapiere/Arndt-Horowitz\\_Working-Paper\\_Nuclear\\_rhetoric\\_and\\_escalation\\_management\\_in\\_Russia\\_s\\_war\\_against\\_Ukraine.pdf](https://www.swp-berlin.org/publications/products/arbeitspapiere/Arndt-Horowitz_Working-Paper_Nuclear_rhetoric_and_escalation_management_in_Russia_s_war_against_Ukraine.pdf).

weapons, including strategic nuclear weapons and weapons based on new principles.”<sup>648</sup>

Russia’s warnings about the risks of nuclear escalation in its war against Ukraine seem to demonstrate the confidence of Russian leadership to play on such fears. As their propensity to leverage nuclear coercion and intimidation to back up conventional aggression has been apparent since at least 2014, this also suggests that actions taken by NATO allies over the last eight years have not changed Russian leadership’s cost-benefits calculus of such actions. The suspension of the New START Treaty by Russia in February 2023, preceded by the refusal (since 2020) to allow inspection of its nuclear facilities under the treaty, also seemed to demonstrate Russian leadership’s growing confidence in its strategic nuclear forces and relative position in the strategic nuclear competition vis-à-vis the United States. This confidence was expressed by Russian officials. For example, according to Medvedev’s statement made on March 24: “Thank God, ... we have parity and even superiority in strategic nuclear forces which, in effect, is even more vital for the existence of our country, because otherwise we would have been torn apart.”<sup>649</sup> Similarly, Mikhail Kovalchuk, the president of the Kurchatov Institute, a national research center, boasted in March 2023 that even though Russia has always “lagged behind the United States in the development of nuclear weapons,” for the first time in history it is “ahead.”<sup>650</sup> The planned deployment of non-strategic nuclear weapons in Belarus also seems to signify Russian leadership’s confidence in playing on nuclear fears at the regional level.

Russia seems to have achieved some of its goals through efforts to manage escalation in the war against Ukraine. By repeatedly highlighting the risks of nuclear confrontation, Russia increased Western reluctance to directly intervene in the conflict. Western leaders, including President Biden, explicitly ruled out the Western direct engagement using the risk of “World

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648 “Russia’s Medvedev: new regions can be defended with strategic nuclear weapons,” Reuters (September 22, 2022). <https://www.reuters.com/world/europe/russias-medvedev-strategic-nuclear-weapons-can-be-used-defend-new-regions-2022-09-22/>.

649 “Medvedev says Russia has strategic nuclear superiority,” TASS (March 23, 2023). <https://tass.com/defense/1593313>.

650 “Russia first time ahead of US in nuclear arms research — Kurchatov Institute’s chief,” TASS (March 29, 2023). <https://tass.com/defense/1596203>.



War III” and nuclear Armageddon as the reason of not doing so.<sup>651</sup> To reduce escalation risks, some NATO allies also constrained the types of military equipment that could be provided to Ukraine, or at least slowed it down.<sup>652</sup>

At the same time, the war against Ukraine showed the limits of Russia’s escalatory threats. Russia’s warnings about the risks of the conflict did not prevent significant Western military support to Ukraine. Despite initial reluctance to provide some categories of weapons such as tanks, the West eventually decided to deliver such armaments to Ukraine. Despite Russian warnings, NATO allies committed themselves to provide support to Ukraine “as long as it takes” and openly talked about the need for “strategic defeat” of Russia.<sup>653</sup> For some Russian experts such as Dmitry Trenin, nuclear deterrence proved its inadequacy as “it didn’t prevent the active and effective participation of the United States and NATO member-states in arming and training the Ukrainian army, from providing real-time intelligence information to Kyiv, [or] from large-scale financial, economic, and technical assistance.”<sup>654</sup> Russian exercises and statements of officials “didn’t lead to public protests in the West against the nuclear threat and for an end to military support for Ukraine.” The “fear factor” that existed in the Cold War “has practically stopped playing any significant role” as “NATO’s indirect war with nuclear superpower Russia is no longer perceived as something really dangerous.”<sup>655</sup> While it is unclear if Russia’s political leaders seriously considered use of non-strategic nuclear weapons inside Ukraine, the U.S. warnings about the “catastrophic consequences” of Russia’s nuclear use might have been among the reason why Putin chose not to do so and

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651 “Biden: Direct conflict between NATO and Russia would be ‘World War III,’” *The Hill* (March 11, 2022), <https://thehill.com/policy/international/597842-biden-direct-conflict-between-nato-and-russia-would-be-world-war-iii/>; “Biden’s ‘Armageddon’ talk edges beyond bounds of US intel,” AP News (October 7, 2022), <https://apnews.com/article/biden-nuclear-risk-1d0f1e40cff3a92c662c57f274ce0e25>.

652 “US Weighs Escalation Risk As Ukraine Asks for Longer-range Missiles,” *Defense One* (September 16, 2022). <https://www.defenseone.com/policy/2022/09/white-house-military-weigh-escalation-risk-ukraine-asks-longer-range-missiles/377286/>.

653 “US policy of strategic defeat for Russia pushes world to disaster — Russian ambassador,” TASS (January 19, 2023). <https://tass.com/politics/1564775>.

654 Dmitry Trenin, “Russia Failed To Assess The Western Response To Ukraine Invasion, But There Is No Way Back, Russia Must Persevere And Conquer Most Of Ukraine” (December 8, 2022). <https://www.memri.org/reports/russian-former-colonel-trenin-russia-failed-assess-western-response-ukraine-invasion-there>.

655 Ibid. See also: <https://globalaffairs.ru/articles/vernite-strah/>.

denied the need for doing so.<sup>656</sup> Despite heavy Russian casualties and political risk associated with announcing the partial military mobilization, Putin refrained from testing the U.S. and Western resolve to follow through with the warnings.

Russia also failed in its escalation management attempts against Ukraine. Its veiled nuclear threats did not discourage Ukraine from the counteroffensive and the retaking of territories initially occupied by Russia. Ukraine was also not deterred from attacking Russian critical infrastructure, including the Kerch bridge to Crimea, or the Engels air base that housed Russian heavy bombers.<sup>657</sup> More importantly, Russia failed to break Ukrainian resistance by imposing an appropriate dosage of damage. Russian attacks against Ukrainian civilian infrastructure did not sober Ukrainian society as Russia leaders intended. Instead, Ukrainians were enraged to fight harder against the invaders. Russia's cyber or counterspace attacks against Ukraine also did not appear to provide expected benefits to Russia.

The experience during the first year of the Russian war against Ukraine seemed to demonstrate that conventional missile strikes did not have the expected psychological or military utility as compared to nuclear weapons. Russia failed to use these weapons to impose the sufficient level of deterrent damage that would enable Russia to terminate a conflict on its own terms. This creates incentives for Russia to increase reliance on nuclear weapons to achieve such effects. The temptation to do so would be strengthened by the fact that with the depletion of Russia's dual-capable missile stocks, Russia would be constrained in its ability to use conventional long-range precision strikes as either a means of escalation management or warfighting—at least until this arsenal is rebuilt. Some Western intelligence agencies even assess that the use of so many dual-capable systems undermined their deterrence function.<sup>658</sup>

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656 "Putin says 'no need' for using nuclear weapons in Ukraine," *PBS News Hour* (October 27, 2022). <https://www.pbs.org/newshour/world/vladimir-putin-rules-out-using-nuclear-weapons-in-ukraine>.

657 "Drone attack hits Russia's Engels airbase for second time in a month," *Politico* (December 26, 2022). <https://www.politico.eu/article/russia-ukraine-war-vladimir-putin-drone-attack-hits-russias-engels-airbase-for-second-time-in-a-month/>.

658 William Alberque, "What has the war on Ukraine revealed about Russia's non-strategic missiles?" *IISS Blog* (March 6, 2023). <https://www.iiss.org/blogs/analysis/2023/03/what-has-the-war-revealed-about-russias-non-strategic-missiles>.

Despite the uptick in cyberattacks against Ukrainian critical infrastructure since the beginning of the invasion—and some successes in this area, as in case of the cyberattack against Viasat, a major satellite communications provider for Ukraine and its military—the attacks did not lead to any significant strategic gains.<sup>659</sup> By April 2023, the conflict instead demonstrated the Western ability to support Ukraine in thwarting such attacks.<sup>660</sup> With regards to counterspace capabilities, Russia had only temporary successes in jamming Starlink terminals in Ukraine.<sup>661</sup> Russia also did not follow on its threats of retaliatory strike against Western commercial satellites supporting Ukraine, as it might have been influenced by the U.S. threat of retaliation “in a time and manner of... [its own] choosing.”<sup>662</sup>

Still, any lessons from Russia’s escalation management in war against Ukraine would not necessarily apply to a scenario of war between NATO and Russia. Moscow might have a different array of cyber capabilities at its disposal against NATO allies, and there is evidence that Russia was actively seeking options to do so.<sup>663</sup> In the war against Ukraine, Russia did not demonstrate the vast array of its counter-space capabilities that could be used when directly confronting the United States and other NATO allies. While Russia was reluctant to use nuclear weapons in the local war with Ukraine, it might be less reluctant to do so in a scenario of full-

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659 Jakub Przetacznik with Simona Tarpova, “Russia’s war on Ukraine: Timeline of cyber-attacks,” European Parliamentary Research Service (June 2022), [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733549/EPRS\\_BRI\(2022\)733549\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733549/EPRS_BRI(2022)733549_EN.pdf); Jason Blessing, “Revisiting the Russian Viasat Hack: Four Lessons About Cyber on the Battlefield,” AEI (September 2, 2022), <https://www.aei.org/foreign-and-defense-policy/revisiting-the-russian-viasat-hack-four-lessons-about-cyber-on-the-battlefield/>; “Google Reveals Alarming Surge in Russian Cyber Attacks Against Ukraine,” The Hacker News (February 20, 2023), <https://thehackernews.com/2023/02/google-reveals-alarming-surge-in.html>.

660 Rod Thornton and Marina Miron, “Winning Future Wars: Russian Offensive Cyber and Its Vital Importance in Moscow’s Strategic Thinking,” pp. 127-128.

661 Valerie Insinna, “SpaceX beating Russian jamming attack was ‘eyewatering’: DoD official,” Breaking Defense (April 20, 2022), <https://breakingdefense.com/2022/04/spacex-beating-russian-jamming-attack-was-eyewatering-dod-official/>. Accessed November 17, 2023.

662 “Russian Official Says Western Commercial Satellites Could Become ‘Legitimate’ Targets,” RFERL (October 27, 2022), <https://www.rferl.org/a/russia-western-commercial-satellites-legitimate-targets/32102888.html>; White House, Press Gaggle by Press Secretary Karine Jean-Pierre En Route Syracuse, NY (October 27, 2022), <https://www.whitehouse.gov/briefing-room/press-briefings/2022/10/27/press-gaggle-by-press-secretary-karine-jean-pierre-en-route-syracuse-ny/>.

663 Cybersecurity and Infrastructure Security Agency, “Russia Cyber Threat Overview and Advisories.”

scale regional war with the Alliance. This is especially true in a scenario in which Russia lacks alternative kinetic options, given the depletion of its conventional missile stocks and degradation of its general purpose forces. In war against NATO, Russian leaders might also judge that the Western societies would be unwilling to suffer comparable or even greater amounts of destruction than Ukraine society.

## **Opportunities and Challenges Over the Next Decade**

How does Russian leadership see opportunities and challenges with regards to Russia's relative ability to manage escalation over the next decade? What seems clear is that even amidst heavy conventional losses in Ukraine, nuclear modernization of strategic forces remains the top priority even though the level of modern armaments in the strategic nuclear forces at the beginning of 2023 exceeded 91%. Even though Putin expressed confidence that "all plans will be carried out" with regards to all three legs of Russia's strategic triad, he suggested that some of the programs could be delayed.<sup>664</sup>

In the Strategic Rocket Forces, Russia plans to continue the deployments of Yars and new Sarmat ICBMs and increase the number of deployed Avangard hypersonic warheads.<sup>665</sup> There are also reports about Russia's ongoing work on development of a new unique ballistic missile known as Osina-RV (or 15P182). Other reports indicate that in 2023-2024, it has plans to begin research and development work on new-generation Kedr ICBMs that are planned to replace early Yars systems in the 2030s.<sup>666</sup> The timelines for deploying the Burevestnik nuclear-powered cruise missile are unclear, but according to the director of the U.S. Defense Intelligence Agency, the weapon could be deployed later this decade.<sup>667</sup>

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664 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022).

665 Ibid.

666 "Development of Russia's new-generation ICBM to begin in 2023-2024 — source," TASS (April 2, 2021), <https://tass.com/defense/1273711>; Timothy Wright, "Testing times for Russia's strategic forces," IISS Military Balance Blog (July 9, 2021), <https://www.iiss.org/blogs/military-balance/2021/07/russia-strategic-forces>.

667 Felix Lemmer, "Security Tech Brief: Burevestnik," Hertie School Centre for International Security (May 2022), p. 4. [https://hertieschool-f4e6.kxcdn.com/fileadmin/2\\_Research/1\\_About\\_our\\_research/2\\_Research\\_centres/2\\_Centre\\_for\\_International\\_Security/Papers/Security\\_Tech\\_Brief\\_Skyfall\\_May31.pdf](https://hertieschool-f4e6.kxcdn.com/fileadmin/2_Research/1_About_our_research/2_Research_centres/2_Centre_for_International_Security/Papers/Security_Tech_Brief_Skyfall_May31.pdf).

**Table 10. Russia and United States Projected ICBM Forces, 2026 - 2036**

Delivery Vehicle	Max. Upload Capacity	Deployment Type	Quantity		
			2022	2026	2036
SS-18 Satan (RS -20)	10	Silo	46	-	-
SS-19 Mod 3 Stiletto (RS-18)	6	Silo	Up to 20/ being withdrawn	-	-
SS-25 Sickle (RS-12M Topol)	1	road-mobile	9	-	-
SS-27 Mod 1 (RS-12M1 and M2, Topol-M)	1	silo and road-mobile	78 (60 silo based; 18 road-mobile)	£60 (silo based)	-
SS-27 Mod 2 (RS-24 Yars) – since 2009	4	Silo and road-mobile/	£180 (18 silo based; 162 road mobile)	£208 (28 silo based; 180 road mobile)	£288 (88 silo based, 200 road mobile)
SS-19 Mod 4 Stiletto (RS-18)	1 Avangard HGV	Silo	£6 with Avangard HGV	£12 with Avangard HGV	£18 with Avangard HGV
Sarmat (RS-28)	15	Silo	First deployment planned in 2023	46	100
Burevestnik	1	?		-	Several
Kedr/ Osina-RV	No smaller than Yars	Silo/ road-mobile		-	Up to 20 (10 silo based, 10 road-mobile)
Total			339 (150 silos and 189 road-mobile)	326 (146 silo based and 180 road-mobile)	426+ (216 silo based; 210 road-mobile).
U.S. Minuteman III	3 (1 deployed)	Silo	400	400	-
U.S. Sentinel (GBSD)	MIRV-capable (assume similar upload as MMIII)	Silo	-	-	400

- Projections for 2026 assume Russian production capacity of 20 different ICBMs annually and gradual replacement of the Topol, Topol-M, and Satan ICBMs that are being retired. In comparison to year 2022, this includes the deployment of 80 new missiles, including: 6 RS-18 Stiletto Mod 4 with Avangard HGV (added to the six already deployed); 46 Sarmat armed with different types of warheads, including HGV that replace SS-18 Satan; and 28 Yars (18 road-mobile and 10 silo-based) in addition to about 180 already deployed in 2022 (18 silo-based and 162 road mobile). The legacy systems still deployed include 60 Topol-M (silo-based) that were not replaced by Yars systems.

- Projections for 2036 assume the continued production of up to 20 different ICBMs annually with the total replacement of the legacy systems (Topol-M) and gradual introduction of new systems set to replace Yars missiles. In comparison to year 2026, this includes up to 200 new missiles. At the same time, the projection assumes that the total number of Russia's ICBMs will not exceed the total number of Russia's ICBMs deployed in 2008—that is, 430. This includes the deployment of one additional regiment of SS-19 Mod 4 Stiletto (RS-18) with Avangard system; additional 64 Sarmat armed with different types of warheads; additional 80 Yars missiles (60 silo-based and 20 road-mobile), up to 20 new types of silo-based and road-mobile ICBMs (Kedr/Osina RV), and several deployed Burevestnik nuclear-powered nuclear-armed cruise missiles. With regard to the U.S. Sentinel ICBM, the projection assumes that the current schedule will be met with nine missiles on alert in 2029 and the completed deployment by 2036.<sup>668</sup> Still, it should be taken into account that the date of the initial deployment and its completion may face delays.<sup>669</sup>

Russia's naval strategic nuclear forces will be the first to achieve the benchmark of a portfolio comprised of entirely modern weapons and equipment. This will take place over the next few years with operational deployment of the Emperor Alexander III, the seventh Borei-A nuclear-powered submarine.<sup>670</sup> Russia's naval nuclear forces over the next decade can be also supplemented with the deployment of the Poseidon nuclear-armed torpedoes on the special purpose submarines, starting with Belogorod. There are reports that two additional carriers of Poseidon, the Khabarovsk and Ulyanovsk, are under construction. The first may be commissioned in 2024 and the second in 2025.<sup>671</sup> Russia's press reports

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668 "Defense Primer: Strategic Nuclear Forces," Congressional Research Service (February 2, 2023), p. 2, <https://crsreports.congress.gov/product/pdf/IF/IF10519>; "U.S. Strategic Nuclear Forces: Background, Developments, and Issues," Congressional Research Service, RL33640 (December 14, 2021). <https://sgp.fas.org/crs/nuke/RL33640.pdf>.

669 "Northrop's \$96 billion nuclear missile risks delays, Air Force finds," Star and Stripes (March 23, 2023). <https://www.stripes.com/theaters/us/2023-03-23/northrop-sentinel-icbm-risks-delays-9584038.html>.

670 President of Russia, "Congratulations on the occasion of Defender of the Fatherland Day" (February 23, 2023).

671 "Russia's nuclear submarine construction reaches post-Soviet high," The Barents Observer (January 6, 2022). <https://thebarentsobserver.com/en/security/2022/01/bustling-sevmash-shipyard-enters-new-year-post-soviet-high-construction-peak>. Accessed November 17, 2023.

suggest that by 2025, Russia intends to deploy a division of special-purpose submarines armed with Poseidon in Kamchatka.<sup>672</sup>

Table 11. Russia and NATO Nuclear Weapon States' Projected SLBM Force 2026 - 2036

SSBN Type	SLBM Type	Max. No. of Warheads per SLBMs <sup>673</sup>	Max. No. of SLBMs per SSBN	Number of SSBNs		
				2022	2026	2036
Delta IV (Project 667BDRM Delfin) class submarines	SS-N-23 Skiff (R-29RMU2 Sineva/ R-29RMU2.1 Layner) – IOC in 2007	4	16	6	6	2
Borey (Project 955) and Borey-A (955A)	SS-N-32 BULAVA	10	16	5	8	10
Belogrod	Poseidon (Kanyon) UUVs	N/A	up to six UUVs <sup>674</sup>	sea trials	1	4
Total				11	15	16
Ohio Class	Trident II (D-5)	12/ 8 with the New START limits	24/ 20 with the New START limits	14	14	6
Columbia Class	Trident II (D-5)	12/8 with the New START limits	16	-	-	6
Total				14	14	12
UK Vanguard/ Dreadnought Class	Trident II (D-5)	12	16	4 <sup>675</sup>	4	4 (with one Dreadnought Class)
French Le Triomphant Class/ SNLE	M51.2/M51.3/ M51.4	6	16	4	4	4 (with on SNLE)

- The projections for 2026 assume that Russia will deploy a total of eight Borey and Borey-A class SSBNs with additions of Generalissimo Suvorov (sixth boat), Imperator Aleksandr III (seventh boat) and Knyaz Pozharskiy (planned to be commissioned in 2024).<sup>676</sup> It also assumes that Russia will not retire any of the deployed Delta IV Project submarines.

672 "Submarine force armed with Poseidon torpedoes to come into operation in Kamchatka in 2025," TASS (April 3, 2023). <https://tass.com/defense/1598329>.

673 Defense Intelligence Agency, *Global Nuclear Landscape 2018*, p. 14.

674 Timothy Wright and Fabian Hoffman, "Testing times for Russia's strategic forces" (July 9, 2021). <https://www.iiss.org/blogs/military-balance/2021/07/russia-strategic-forces>. Accessed November 17, 2023.

675 The deployment practice of no more than eight missiles/40 warheads per boat. See: *IISS Military Balance 2023*, p. 145.

676 "Sevmash delivers sixth Borei-class sub, launches the seventh," The Barents Observer (December 29, 2022). <https://thebarentsobserver.com/en/2022/12/sevmash-delivers-sixth-borei-class-sub-launches-seventh>. Accessed November 17, 2023.

- The projections for 2036 assume that Russia will deploy a total of 10 Borey and Borey-A class SSBNs, two Delta-IV SSBNs, and up to four Belogorod special purpose submarines armed with Poseidon UUV. The projected number of the U.S. submarines assumes that the total number of U.S. SSBNs will not fall below 12 with six deployed Columbia Class SSBNs and six Ohio-class by 2036.<sup>677</sup> The UK will also be in the process of replacing the Vanguard class SSBNs with the new Dreadnought class.<sup>678</sup> France will also deploy its first third generation SSBN SNLE.<sup>679</sup> The projections assume that it will have similar SLBM launch capacity as the Le Triomphant class.

The current plans of the Russian Aerospace Forces include the delivery of 10 new Tu-160Ms by 2027 with an ambition to field up to 50 of them by the mid-2030s.<sup>680</sup> There are also reports that flight tests of the Future Long-Range Aviation Complex (PAK DA) project's strategic bomber could take place over the next few years.<sup>681</sup>

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677 "Navy Columbia (SSBN-826) Class Ballistic Missile Submarine Program: Background and Issues for Congress," CRS (updated November 16, 2023), p. 6. <https://sgp.fas.org/crs/weapons/R41129.pdf>.

678 UK Ministry of Defense, "Dreadnought submarine programme: factsheet" (March 16, 2021). <https://www.gov.uk/government/publications/successor-submarine-programme-factsheet/successor-submarine-programme-factsheet>. Accessed November 17, 2023.

679 Christina Mackenzie, "France to begin building new ballistic missile subs," Defense News (February 22, 2021). <https://www.defensenews.com/naval/2021/02/22/france-to-begin-building-new-ballistic-missile-subs/>. Accessed November 17, 2023.

680 *IISS Military Balance 2023*, p. 158.

681 *Ibid.*



Table 12. Russia and United States Projected Strategic Bomber Force, 2026 - 2036

Bomber Type	Type of LACM/ Gravity Bomb	Maximum No. of LACM/Gravity Bombs per Aircraft	Number of Bombers		
			2022	2026	2036
Tu-95 Bear ((Tu-95MS6 (Bear H-6) and Tu-95MS16 (Bear H-16)	AS-15A/B Kent (KH-55SM/ RKV-500B) / RS-AS-23B Kodiak (Kh-102)	Up to 6 on Bear H-6/ Up to 16 on Bear H-16	60 (30 Bear H-6 and 30 Bear H-16)	60	60
Tu-160 Blackjack (Tu-160M1 or Tu-160M2)	AS-15A/B Kent (KH-55SM/ RKV-500B)/ RS-AS-23B Kodiak (Kh-102)	12	16	26	66
PAK-DA	-	-	-	Flight tests	several
Total			76	86	+126
U.S. B-52	AGM-86B nuclear ALCM and/ or AGM-129A nuclear ACM / LRSO	20	46	46	46 (75 in total)
B-2	B-61/B-83	16	20	20	-
B-21	LRSO and B61	Up to 16	-	1	£100
Total			66	67	146

- The projections for 2026 assume Russia will continue to upgrade and deploy the current fleet of Tu-95 Bear strategic bombers, upgrade existing Tu-160Ms, and add additional 10 new Tu-160Ms. In this timeframe, the United States will add one B-21 bomber while keeping all current nuclear-capable strategic bombers. The upload potential of B-21 will not be higher than of B-2.
- The projections for 2036 assume that Russia will continue to upgrade existing strategic bombers and will succeed in deploying 50 new Tu-160Ms and several PAK-DAs. In contrast, the United States will maintain the current fleet of nuclear-capable B-52, will retire all B-2s in the 2031-2032 timeframe and deploy at least 100 nuclear-capable B-21s.

Russia’s non-compliance with the New START Treaty and its subsequent suspension of its participation in the treaty in February 2023 only further decrease the prospects for any strategic arms control measures that would

govern the strategic nuclear relationship between the United States and Russia. Russia's unwillingness to return to the treaty seems to be signaled by linking the future of the treaty with the Western support to Ukraine<sup>682</sup> and the need for accounting for not only the U.S. nuclear weapons, but also nuclear weapons of France and United Kingdom.<sup>683</sup> Absent the New START Treaty follow-on agreement, Russia will likely be in a better position than the United States to further expand and diversify its strategic arsenal further, fostering Russian leadership's perception of strategic nuclear advantage against the United States. Upgrading Russia's strategic arsenal is likely to remain the top political priority and will keep it shielded from the rivalry for resources with other capabilities, even though it would come at the expense of rebuilding of Russia's general purpose forces depleted during the ongoing war against Ukraine.<sup>684</sup> Also, while the United States is in the early stage of its modernization process and focuses on timely 1:1 replacement of aging systems, Russia has a hot production line with the ability to produce about 20 new ICBMs and additional SLBMs and novel systems per year—modernizing over 90% of its deployed forces. The biggest Russian comparative advantage versus the United States over the next decade is, however, its ability to process at least 1,000 warheads per year and increase this capacity if needed. If the United States cannot achieve a planned capacity to build at least 80 plutonium pits per year starting from 2030, the United States would have to rely on the life extension programs of existing warheads. This means that if Russia decides to significantly expand the number of its strategic deployed warheads, the United States might not keep up—not because of its political choice of refraining to do so, but because of a lack of technical capacity. In addition, China's emergence as the U.S. nuclear peer and an increasing Russia-China alignment could also complicate the U.S. strategic calculations vis-a-vis Russia, providing Moscow with more escalation management leeway.

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682 "The U.S. is well aware of what steps we expect for de-escalation," [«В США прекрасно понимают, каких шагов по деэскалации мы от них ждем»], *Kommersant* (January 26, 2023). <https://www.kommersant.ru/doc/5785723>. Accessed November 17, 2023.

683 President of Russia, "Presidential Address to Federal Assembly" (February 21, 2023).

684 Mike Albertson, "Facing The Coming Arms Control Interregnum. Workshop Summary," Center for Global Security Research (August 9-10, 2022), Panel 1. <https://cgsr.llnl.gov/content/assets/docs/Workshop-Summary-Arms-Control-Interregnum.pdf>. Accessed November 17, 2023.

**Table 13. Russia and United States Projected Maximum Upload Capability, 2026-2036**

	2026				2036			
	Russia		US		Russia		US	
	Launchers	Max. Upload Capacity	Launchers	Max. Upload Capacity	Launchers	Max. Upload Capacity	Launchers	Max. Upload Capacity
ICBMs	326	1,594	400	1200	426	2,750	400/450	1,200/1350
Si-lo-based	146	874	400	1200	216	1910	400/450	1,200/1350
Road-mobile	180	720	-	-	210	840	-	-
SLBMs	224	1664	336/280 with NST conversions	4,032/ 2,240 with NST conversions	216	1752	240	2,880
Strategic Bombers	86	972	67	1,256	126	1,452	146	2,520
Total	636	4,230	803/747 with NST conversions	6,448/4,696	768	5,954	786/836	6,600/ 6,750
Max.Number of Available Aarheads	?		3,750 <sup>685</sup>		?		4,230 <sup>686</sup>	

Sources: The projections are based on estimated number of delivery vehicles and their upload capability listed in Tables 10-12.

Given Russian countermeasures, it can be assumed that Russia’s perception of an overall nuclear balance would not be significantly affected by projected increases in the number of the U.S. Aegis-BMD ships. According to available projection, the number of such ships could increase to 65 at the end of FY25.<sup>687</sup> It is unclear if it will grow beyond this number up to year 2036 when the overall number of U.S. large surface combatants

685 U.S. Department of State, “Transparency in the U.S. Nuclear Weapons Stockpile,” fact sheet (October 5, 2021). [https://www.state.gov/wp-content/uploads/2021/10/Fact-Sheet\\_Unclass\\_2021\\_final-v2-002.pdf](https://www.state.gov/wp-content/uploads/2021/10/Fact-Sheet_Unclass_2021_final-v2-002.pdf).

686 Assumes that the United States will be able to produce at least 80 plutonium pits starting from 2030, and that these pits would be used for new warheads in addition to the latest unclassified number (3,750 warheads).

687 Ronald O’Rourke, “Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress,” Congressional Research Service, RL33745 (October 13, 2020), p. 6. <https://crsreports.congress.gov/product/pdf/RL/RL33745/214>. Accessed November 17, 2023.

is projected at between 80 to 77 ships.<sup>688</sup> Also, according to current plans, the United States will deploy its first hypersonic missile defense system before FY2034.<sup>689</sup>

On the current trajectory, the regional nuclear balance in Europe is also likely to further shift in a way that is detrimental for NATO allies. Russia will aim at restocking its arsenal of dual-capable missiles, consolidating its quantitative and qualitative nuclear advantages at the regional level. It has already announced plans to increase the supply of Kinzhal and begin mass production of Tsirkon high-precision hypersonic missile systems.<sup>690</sup> Russia will also deploy its non-strategic nuclear weapons to Belarus. Even though DCA-based NATO theater nuclear capability will be modernized with nuclear-capable F-35 and B61-12 nuclear gravity bombs, such a posture change alone would not be sufficient to change the overall regional nuclear balance that will remain favorable to Russia.

As highlighted by a report of a study group convened by the Center for Global Security Research, the impact of these trends on the theater deterrent in Europe will be amplified by the two-nuclear peer problem that is likely to fully materialize around 2030, given current assessments of Chinese nuclear buildup.<sup>691</sup> U.S. extended nuclear deterrence in Europe and thus NATO nuclear deterrence will be complicated not only by increasing U.S. requirements to deter China, but also will have to account for different forms of collaboration of China and Russia:

- Peacetime cooperation to undermine credibility of U.S. extended deterrence.
- Opportunistic aggression or coercion in which Russia might seek to take an advantage in Europe of U.S.-China conflict in the Indo-Pacific.

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688 Ronald O'Rourke, "Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress," Congressional Research Service, RL32665 (December 21, 2022), p. 13. <https://sgp.fas.org/crs/weapons/RL32665.pdf>. Accessed November 17, 2023.

689 Jason Sherman, "DOD sets 2034 fielding target for Hypersonic Defense system; 17-year development path," InsideDefense (April 4, 2023).

690 President of Russia, "Meeting of Defence Ministry Board" (December 21, 2022).

691 Brad Roberts, study group chair, *China's Emergence as a Second Nuclear Peer: Implications for U.S. Nuclear Deterrence* (Livermore, CA: Center for Global Security Research, Spring 2023). [https://cgsr.llnl.gov/content/assets/docs/CGSR\\_Two\\_Peer\\_230314.pdf](https://cgsr.llnl.gov/content/assets/docs/CGSR_Two_Peer_230314.pdf). Accessed November 17, 2023.

- A scenario of collaborative or joint aggression in which Russia and China combine their forces to reshape political and military orders in Europe and in the Indo-Pacific.<sup>692</sup>

This, in turn, could bring back the renewed risk of decoupling—the perception of U.S. allies as well as Russia that in some circumstances, the NATO allies would be left without a credible U.S. nuclear umbrella. This could provide Russia with additional leeway for escalation management during a crisis and conflict with NATO.

It is likely that over the next decade, Russia would further invest in strengthening its capabilities of strategic nonnuclear deterrence, including conventional long-range precision capabilities, cyber, and counterspace.

With regards to non-nuclear precision strike capabilities, different branches of Russian armed forces are likely to continue to advocate for their increasing role. In particular, advocates for a greater role for the Russian Ground Forces welcomed the termination of the INF Treaty as a positive development because, in their view, the limitations on the use of missile systems at distances under 500 km inhibited the ability to effectively fulfill the SNND tasks.<sup>693</sup> They also underlined that the termination of the treaty allowed the Russian Defense-Industrial Complex, in accordance with instructions from the President, to undertake work on the ground-launched version of Kalibr and create medium-range ground-based hypersonic missiles.<sup>694</sup> In their view, the “ground-based component of strategic nonnuclear offensive weapons... should eventually become the basis of strategic deterrence during prenuclear phases of conflict...”<sup>695</sup> The reason for this was that the delivery vehicles of strategic nonnuclear arms in the Russian Aerospace Forces and the Navy are also elements of the nuclear triad, and their attrition at a prenuclear stage would tangibly affect Russia’s nuclear deterrence potential.

As highlighted in the previous chapter, Russia’s ability to rebuild, expand, and further upgrade its conventional precision strike capabilities will depend on the dynamics of the Russia-Ukraine war and the cumulative

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692 Ibid.

693 O.L. Salyukov and A.V. Shigin, “The Role and Place of the Ground Forces in Strategic Deterrence,” p. 99.

694 Ibid., p. 98.

695 Ibid., p. 100.

effects of sanctions that limit Russian supply chains' access to Western technologies.<sup>696</sup> Developments of U.S. and NATO non-nuclear conventional strike capabilities, as well as improvements of IAMDs, may complicate Russian perceptions of its non-nuclear escalation management options at the regional level. Russian experts already expect U.S. engagement in "more active implementation of the prompt nonnuclear strike concept."<sup>697</sup> Past Russian experiences in dealing with uncertainties and its perception of inferiority at the conventional level suggest that over the next decade, nuclear weapons would be further emphasized in Russia's approach to escalation management in regional conflicts.<sup>698</sup> Resources and technology, but also human capital constraints, could have an impact on the quantity and quality of other Russia's non-nuclear capabilities that may be useful for escalation management—in particular cyber capabilities and counterspace systems.

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696 See also: Robert P. Ashley, "Russia's Military still has a lot to worry about," *The Cipher Brief* (February 13, 2023). [https://www.thecipherbrief.com/column\\_article/russias-military-still-has-a-lot-to-worry-about](https://www.thecipherbrief.com/column_article/russias-military-still-has-a-lot-to-worry-about). Accessed November 17, 2023.

697 A.A. Bartosh, "Deterrence and Coercion in the Hybrid Warfare Strategy," *Military Thought* 31, no. 1 (2022), p. 11.

698 Kristin Ven Bruusgaard, "Russian nuclear strategy and conventional inferiority," *Journal of Strategic Studies* 44, no. 1 (2021).

# Conclusions and Implications

The aim of this paper was to provide preliminary answers to the following questions:

- How has Russian political and military leadership assessed the evolving military balance in Europe since 2008?
- How has Russia's leadership perceived Moscow's key relative strengths, weaknesses, and asymmetries vis-à-vis NATO?
- How has this assessment changed in the context of Russia's ongoing war against Ukraine?
- How might Russia's leadership see the main challenges and opportunities for Russia between now and the mid-2030s?
- What are the implications for NATO?

What the analysis demonstrates is that over the last 20 years, Russian political leadership, including Putin, have expressed increasing confidence in Moscow's progress preparing to face NATO in a regional war. Even though the way in which Russia planned and implemented the all-out invasion against Ukraine has exposed Russia's military weaknesses and squandered many of the gains Moscow made over the last decade, Russian leadership seems to assess that it continues to possess some asymmetrical advantages vis-à-vis NATO. This conclusion is based on an analysis of how leadership assesses the country's evolving ability to implement three key concepts that guide Russia's approach to warfare: setting the conditions in peacetime for success in wartime, gaining a decisive advantage in the initial stage of war, and managing escalation.

## **On Russian Assessment of Progress in Setting Conditions in Peacetime for Success in War Against NATO**

Despite NATO's focus since 2014 on strengthening its unity, resolve, and capabilities to confront Russia, in recent years Russian leadership seemed to believe that Moscow was in a better position than a decade ago to shape conditions in peacetime for success in wartime against NATO. The prevailing view among Russian leadership before the all-out invasion against Ukraine was that the West is in decline and its dominance is vanishing with the inevitable emergence of a new polycentric world order. Also, in their assessments, several structural trends pointed to the erosion of the Western ability to collectively confront Russia: growing domestic political polarization, transatlantic tensions within NATO, "centrifugal" trends within the EU, resource constraints, or conflicting strategic priorities reinforced by the intensifying U.S. competition with China.

Since February 2022, the assessment of Russia's leadership does not appear to have radically changed. Russian leaders did not seem to re-evaluate their views, despite their miscalculations before the invasion against Ukraine about the Ukrainian political leadership and its society's determination to resist Russian armed forces, despite the cohesive Western response to Russia's aggression and the countermeasures taken by the Alliance to respond to Russia's destabilization campaign. Russian decisionmakers have continued to perceive Western cohesion as fragile and to expect that over the next decade or so the "confrontation fatigue" would crack it.

## **On Russian Assessment of Ability to Achieve Dominance in the Initial Period of War**

Between 2008 and 2022, Russia improved its relative ability to exploit the initial period of war to defeat NATO. Russia's political leaders became confident in its country's military might, given the increasing share of modern equipment in Russia's general-purpose forces, the growing array of long-range precision strike systems, the expanding cyber and counter-space capabilities to disorganize NATO military capabilities, the investments in air and missile defense systems to repel NATO's aerospace attack capabilities, the increasing scope and scale of military exercises, and efforts to decrease military transparency in Europe. In particular, Russia perceived that it could asymmetrically exploit time and space advantages. Such a perception by



Russian leadership did not seem to be significantly affected by all the efforts taken by NATO since 2014 to reinforce collective defense and deterrence. This also overlooked existing deficiencies in Russia's posture, in particular limited stocks of long-range precision weapons, and its vulnerability to the U.S./NATO aerospace attack.

The "special military operation" (that is, Russia's war against Ukraine since February 2022) has revealed structural flaws in Russia's armed forces and demonstrated Russia's inability to gain decisive advantage in the initial phase of warfare. Instead of strengthening Russia's relative military position vis-à-vis NATO, the war led to significant losses in personnel and equipment. Instead of continuing the pathway of military modernization, Russia was forced to pursue "a qualitative renewal and improvement" of its military. Despite the setbacks, Russia has retained non-nuclear and nuclear capabilities that could inflict severe damage against NATO territory and forces. Russian leadership also seems confident in their ability to rebuild its military. While the conditions to rebuild its armed forces over the next decade would be radically worse than during the 2008-2022 rearmament—and the rebuilding process will likely encounter similar structural and cultural problems as in the past—Putin continues to express confidence in Russia's asymmetric advantage in defense industrial production and its ability to rebuild its forces "calmly, routinely, and consistently, [and] without haste."

## **On Russian Assessment of Ability to Manage Escalation**

Over the last two decades Russian military thought has developed concepts for escalation management that rely on an ability to inflict prescribed levels of damage against any opponent. These concepts were backed by expanding its options to inflict deterrent damage in a pre-nuclear phase of conflict (conventional, cyber, counterspace) and in nuclear use conditions (non-strategic and strategic, "traditional" and exotic, from ultra-low-yield/low-collateral-damage to high-yield options). With a growing number of escalation options, Putin and other Russian officials became increasingly eager to play on escalation risks and create an impression of their willingness to follow through on their nuclear threats. The Russian leadership's assessment of a more favorable strategic and regional nuclear balance was reinforced by Putin's perception of Russia possessing unique nuclear capabilities unparalleled to those possessed by the United States.

The perceived contribution of Russia's nuclear signals in deterring NATO intervention in Ukraine seemed to further strengthen this confidence. This has been the case even though Russia's success in exploiting escalation risks to its own advantage has not been absolute. The suspension of the New START Treaty and the planned permanent deployment of nuclear weapons to Belarus seem to further indicate the readiness and willingness of Russian leaders to upset nuclear stability at the strategic and regional levels. Over the next decade, Russia's confidence could further grow as it seems relatively better prepared than the United States to further expand and diversify its strategic arsenal. Russia is also in a relatively good position to further consolidate its quantitative and qualitative nuclear advantages at the regional level.

***What do the above observations indicate about Russia's net assessment of European military balance?***

NATO is competing with an adversary that is confident about its ability to prevail in long-term competition even if it is not in optimal position to face NATO today. Despite all the failures in Ukraine, the Russian leadership continues to claim that long-term trends are favorable to Moscow. Consequently, the prospects of Russia's improved position over time seems to reduce any incentives for the Russian leaders to withdraw from Ukraine and change the confrontational anti-Western course. At least as long as Putin is in power, Russian ambition to rewrite the European security order will remain in place.

As the Russian aggression against Ukraine has shown so far, the Alliance is also competing with an adversary that can act aggressively based on the wrong estimates of its relative strengths, weaknesses, and key asymmetries that it could exploit against other countries. The aggression against Ukraine revealed structural deficiencies in Russia's ability to objectively assess its relative military position. Net assessments of military balance seemed to be driven largely by perceptions of asymmetries in Russia's favor. Russia's decisionmakers did not seem to have an accurate picture of the state of not only Ukrainian forces, but also about its own military. The objective assessment of Russia's evolving military position was distorted by Russian leaders' worldview. The bureaucracy also seemed to have neither the ability nor incentives to provide accurate information to the leadership, and the overall picture about Russian military capabilities was further

skewed by widespread corruption.<sup>699</sup> Furthermore, Russia also still seems to lack appropriate tools and methodology to assess military balance at the tactical, operational, and strategic level.<sup>700</sup> As Russia miscalculated in deciding to go to war against Ukraine, one cannot exclude that it may miscalculate in the future while taking decision on whether to start a war with NATO.

NATO is also competing with an adversary whose leadership's net assessment of evolving European military balance—even if proven wrong—may be difficult to be influenced by the Alliance's actions. No matter how cohesive the Alliance will be, Russian leaders may take any demonstrations of the common resolve as an exception from the prevailing trend leading to NATO's ultimate dissolution. While observing NATO investment to further strengthen its military posture, Russian leaders may continue to believe in assymetric advantages that Russia can exploit vis-à-vis the Alliance to gain decisive advantage in the initial period of war. The credible strategic second strike nuclear capabilities of NATO nuclear weapon states and modernized NATO regional nuclear capabilities may be also seen by Russian leaders seen as insufficient to negate perceived Russian quantitative and qualitative nuclear advantages over the Alliance.

*What are the implications of these findings for NATO? What could NATO allies do to more effectively navigate the competition with Russia?*

### **NATO needs to engage in constant efforts aimed at better understanding Russia's net assessment**

Russia aggression against Ukraine is not over. The outcome of Ukraine's fight for its independence and sovereignty will have significant influence on the evolution over the next decade of military balance in Europe and the future of the European security order. What is important from NATO's perspective is that while assessing any changes in Russia's "objective"

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699 Steve Holland and Andrea Shalal, "Putin misled by 'yes men' in military afraid to tell him the truth, White House and EU officials say," Reuters (March 31, 2022), <https://www.reuters.com/world/putin-advisers-too-afraid-tell-him-truth-ukraine-us-official-2022-03-30/> (accessed November 17, 2023); Rob Johnson, "Ukraine is the latest disaster in a long history of Russian military dysfunction," Engelsberg Ideas (April 8, 2022), <https://engelsbergideas.com/notebook/ukraine-is-latest-disaster-in-long-history-of-russian-military-dysfunction/> (accessed November 17, 2023).

700 Andrew Monaghan, "How Moscow Understands War and Military Strategy," pp. 17-18; Clint Reach, Vikram Kilambi, Mark Cozad, *Russian Assessments and Applications of the Correlation of Forces and Means*, pp. 80-85.

relative military capabilities against NATO, it is important to closely follow how Russian leadership perceives its military power relative to NATO.

The lessons, if any, that Russia may learn from its failures or successes in Ukraine could sharply contrast with those observed in the West. Boasts of Russia's leaders about areas of Moscow's comparative advantages vis-à-vis the West might be dismissed by Western observers as merely propaganda. However, ignoring them might lead to overlooking important indicators and warnings of the Kremlin's aggressive intentions—as well as an growing overconfidence of Russian leadership that could only grow over time and ultimately lead to deterrence failure.

Understanding how Russia's net assessment evolves is also important, as the Kremlin net assessment could become a catalyst to Russia's actions. In other words, Moscow might act aggressively to reverse the trends that it perceives as negative. It might also act aggressively to accelerate favorable trends. The aggression against Ukraine illustrates this. One of Putin's justifications of attacking Ukraine in February 2022 was that doing so at that time would be less costly than postponing this decision to the future. At the same time, Russian leaders seemed to believe that the aggression would only accelerate the ultimate decay of the West.

Russian leadership's net assessment also drives Russia to invest in a military that will ensure its advantage in the long term. While Russian leaders seem to perceive overall future trends favorably, they seem to perceive their country's advantages cannot be taken for granted. The idea that the United States and NATO allies might catch up at some point in the future motivates Russian efforts to respond to perceived future threats.

### **NATO needs to develop a long-term strategy for shaping Russian net assessment**

Better understanding of Russian leaders' net assessment could provide a basis for developing strategy aimed at influencing the Kremlin's perception of relative military power vis-à-vis the West and the cost-benefit calculus of aggressive actions. Such a strategy might not only strengthen deterrence but could also convince Russia's leaders about the value in engaging in arms control and risk reduction measures.

To be effective, such strategy may have to shake the confidence of Russia's leaders in all three elements of Russian approach to warfare discussed in this paper—that is, in Moscow's ability to create conditions

in peacetime to succeed in wartime, gain decisive advantage in the initial phase of war, and to manage escalation. This is because undermining the Kremlin's confidence in only one of these areas might be insufficient to change Moscow's overall calculus. Even if NATO remains cohesive and full of resolve to confront Moscow, its deterrence would be weakened if Russia perceives that it has sufficient capabilities to decisively win in the initial stage of regional war against the Alliance. Even if Russia remains uncertain about its ability to win quickly, it may resort to aggressive actions if its leadership is confident that the escalation could be managed. Similarly, even without confidence in its ability to manage escalation and in preparing the conditions in peacetime for success in war, Russia's leadership might still calculate that gaining decisive advantage in the initial stage of war could be decisive and thus worth the risk. While challenging, the comprehensive approach seems to offer the greatest chances for deterrence success.

NATO's successful long-term strategy may also have to focus on directly undermining Russian leaders' confidence in Russia's relative strengths vis-à-vis the Alliance. For example, if the Kremlin perceives that the key to Moscow's strength is qualitative or quantitative nuclear superiority, this may require symmetric or asymmetric efforts that put this assessment into question. The alternative approach—that is, with NATO focusing on exploiting areas of Russia's asymmetric weaknesses vis-à-vis the Alliance—may also offer some benefits. The risk is, however, that doing so might not be sufficiently persuasive to Russia's leaders, especially if their assessment of overall military balance is based on the conviction that Russia's asymmetric advantages overmatch or negate any weaknesses that Russia has versus the Alliance.

Shaping Russia's net assessment requires NATO allies to balance its preparedness to deter threats of today and of the future. Efforts to strengthen NATO's relative position today should not be implemented on the expense of efforts to achieve a long-term edge over Russia. If this would be the case, Russia's leaders could only become more confident that time is working for Moscow's favor and if it would be patient, the opportunity to impose its will on the Alliance members through coercion or the use of force would arise. Likewise, efforts to improve NATO's long-term competitive position vis-à-vis Russia should not be undertaken on the expense of deterrence and defense capabilities needed today. Otherwise, the prospects

of worsening Russia's relative position might catalyze aggressive behavior in the near term. That is why, especially in the context of ongoing Russian aggression against Ukraine, the Alliance should not only improve its long-term military capacity, but also act with a sense of urgency to further strengthen current deterrence and defense posture.

### **NATO needs to recognize the limits of influencing Russian net assessment**

NATO allies should take into account that any steps taken to change Russian leaders' net assessment might not affect Russian leaders' calculus that may be distorted and immune to external efforts to change it. Efforts of NATO allies to comprehensively affect Russian leaders' assessment of Russia's preparedness to win a war against NATO, to negate Moscow's key strengths as perceived by the Kremlin, and balancing deterrence of today with investments into deterrence of the future might reduce the risk of deterrence failure but will not eliminate such risk. Strategic competition with Russia requires being prepared for a scenario of deterrence failure and being ready for it.

NATO allies should also be aware that Russia's political and military leaders take decisions about future military investments based on worst-case assessments of future NATO capabilities. This could be the case despite the best Western efforts to assuage Russian fears and despite the fact that the perceived Western military enhancements do not fully materialize. While designing future deterrence and defence posture, the Alliance should factor potential Russian military responses to NATO allies' investments as they are perceived by Moscow, not to what they really are from the Western perspective.

Even if NATO was successful in changing the Russian net assessment, this might not necessarily change Russia's aggressive behavior towards the West. At least as long as Putin is in power, Russian leadership seems to perceive that the only alternative to not competing with the West is losing without fighting. The Western response to Moscow's aggression against Ukraine only reinforced this preexisting belief. Even if Russia's competitive position would worsen in the eyes of Russian leaders, this might not weaken their resolve to compete. Therefore, while implementing a long-term strategy aimed at affecting Russian leadership's net assessment, the main focus of the Alliance should be on navigating competition with Russia in

a way that reduces the risks of deterrence failure, even if the competition with Russia will be a part of the Euro-Atlantic security architecture for the indefinite future.

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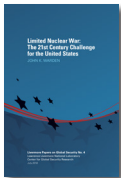
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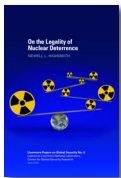
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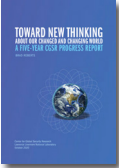
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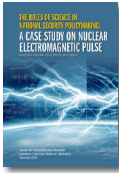
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”

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*Former NATO Defense Policy Analyst,  
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